

Figure 32

## Roadway Cross-Section

*White Road / San Felipe Road* is a designated six-lane arterial from Ocala Ave. to Yerba Buena Rd. and a designated four-lane arterial for the rest of its length in Evergreen. From Alum Rock Avenue to Ocala Ave., White is built as four lanes, in accordance with its General Plan designation. Some sections have a two-way center turn lane, and some sections have on-street parking.

From Ocala Avenue to Tully Road, White Road has five lanes (three southbound and two northbound) with a raised median and bike lanes. From Tully Road to Donegal Drive, White Road has six lanes with a raised median and bike lanes. From Donegal Drive to Westbranch Drive, White Road generally has four lanes, a center turn lane, and bike lanes. The remainder of White Road, from Westbranch Drive to Aborn Road, has six lanes, a center turn lane and bike lanes.

One of the EEHVS road improvements is to make White Road a consistent six lanes with raised median and bike lanes, in accordance with the General Plan designation, from Ocala Ave. to Aborn Rd. An exception will need to be made between Sturla Drive and Stutz Way where physical constraints allow only four lanes to be built.

San Felipe Road is built as four lanes with a raised median from Aborn Road to Villages Drive. There are bike lanes as far south as Yerba Buena Road. Although San Felipe Road is not built to its full General Plan width of six lanes, it functions well as four lanes and does not need to be widened.

## Traffic Operations

This section describes existing and future levels of service and queueing at signalized intersections. It also includes an analysis of traffic control options for unsignalized intersections. The intersections studied along the White Road / San Felipe Road Corridor are displayed in Figure 32 and are as follows:

### ***Signalized Intersections Analyzed***

- *White Road and Alum Rock Avenue*
- *White Road and East Hills Drive*
- *White Road and Story Road*
- *White Road and Mt. Vista Drive*
- *White Road and Rocky Mountain Drive*
- *White Road and Marten Avenue*
- *White Road and Cunningham Avenue*
- *White Road and Lake Cunningham Park Drive*
- *White Road and Tully Road*
- *White Road and Glen Donegal Drive*
- *White Road and Norwood Avenue*
- *White Road and Quimby Road*
- *White Road and Stevens Lane*

- *White Road and Aborn Road*
- *San Felipe Road and Yerba Buena Avenue*
- *San Felipe Road and Fowler Road*
- *San Felipe Road and Delta Road*
- *San Felipe Road and Paseo de Arboles*
- *San Felipe Road and Yerba Buena Road*
- *San Felipe Road and The Villages Parkway*
- *San Felipe Road and Farnsworth Drive*

### **Unsignalized Intersections Analyzed**

- *White Road and Sylvan Drive*
- *White Road and Almond Drive*
- *White Road and Allenwood Drive*
- *White Road and Sturla Drive*
- *White Road and Remington Way*
- *White Road and Castleton Drive*
- *White Road and Stutz Way*
- *White Road and Westbranch Drive*
- *White Road and Westgrove Lane*
- *White Road and D'Amico Drive*
- *San Felipe Road and Autumn Estates*
- *San Felipe Road and Silver Estates*

### **Planned / Background Improvements**

The following improvement is planned and funded under background conditions and will occur with other, previously approved projects in Evergreen.

There is a planned and funded improvement at the intersection of *White Road with Ocala Ave.* to add a separate westbound right turn lane.

### **Required Transportation Improvements**

The proposed project includes numerous improvements to the surrounding transportation network including improvements to freeways, expressways, and local streets. The following improvements in the White Road / San Felipe Road Corridor would be fully funded by the project:

## Reconfigure White Road between Ocala Avenue and Aborn Road

White Road will be reconfigured to six lanes, three in each direction, between Ocala Avenue in the north and Aborn Road in the south, a distance of approximately 2.1 miles. Within this segment, there is one location where White Road will remain four lanes due to insufficient right-of-way: an approximately 0.1-mile section between Sturla Drive and Stutz Way.

Bike lanes will be included as part of the improvements. Other improvements will include a new landscaped median island within the project limits, except between Remington Way and Stutz Way. The median island will prevent mid-block left turns. In addition, left turns onto White Road will be prohibited from the following side streets: Allenwood Drive, Sylvan Drive, Glen Como Way, Westbranch Drive, Westgrove Lane, and D'Amico Drive. However, the median will include turn pockets enabling left turns from White Road to most of these same streets.

The above-described improvements to White Road will occur within the existing right-of-way (see Figures 33-38).

### Intersection Improvements

Project-sponsored improvements at signalized study intersections are described below.

*White Road / Ocala Avenue / Marten Avenue.* Widen the westbound approach to add a second through lane. Restripe the eastbound approach to accommodate a second through lane. Additional right-of-way will be required.

*White Road / Tully Road.* Add a second left-turn lane to each of the four approaches. Add a third through lane to the northbound, southbound and eastbound approaches. All work will occur within the existing right-of-way. The above modifications would eliminate the separate right-turn lanes on the eastbound and westbound approaches.

*White Road / Norwood Avenue.* Add a third through lane to the northbound and southbound approaches. Add a left/U-turn lane to the northbound White Road approach. All work will occur within the existing right-of-way.

*White Road / Quimby Road.* Add a second left-turn lane to each of the four approaches. Add a third through lane to the northbound and southbound approaches. All work will occur within the existing right-of-way.

*White Road / Stevens Lane.* Add a third through lane to the northbound approach. Add a left/U-turn lane to the northbound White Road approach. All work will occur within the existing right-of-way.

*White Road / San Felipe Road / Aborn Road.* Add a second left-turn lane to the westbound approach. Add a third through lane to the southbound approach. All work will occur within the existing right-of-way.

*San Felipe Road / Yerba Buena Road (S).* Add a second left-turn lane to the eastbound, westbound and southbound approaches. All work will occur within the existing right-of-way.

### Project Volumes

Turning movement volumes under project conditions at studied intersections in the corridor are shown in Figure 39A-B.





Figure 33

# **WHITE ROAD RECONFIGURATION OCALA AVENUE TO ABORN ROAD SHEET 1 OF 6**

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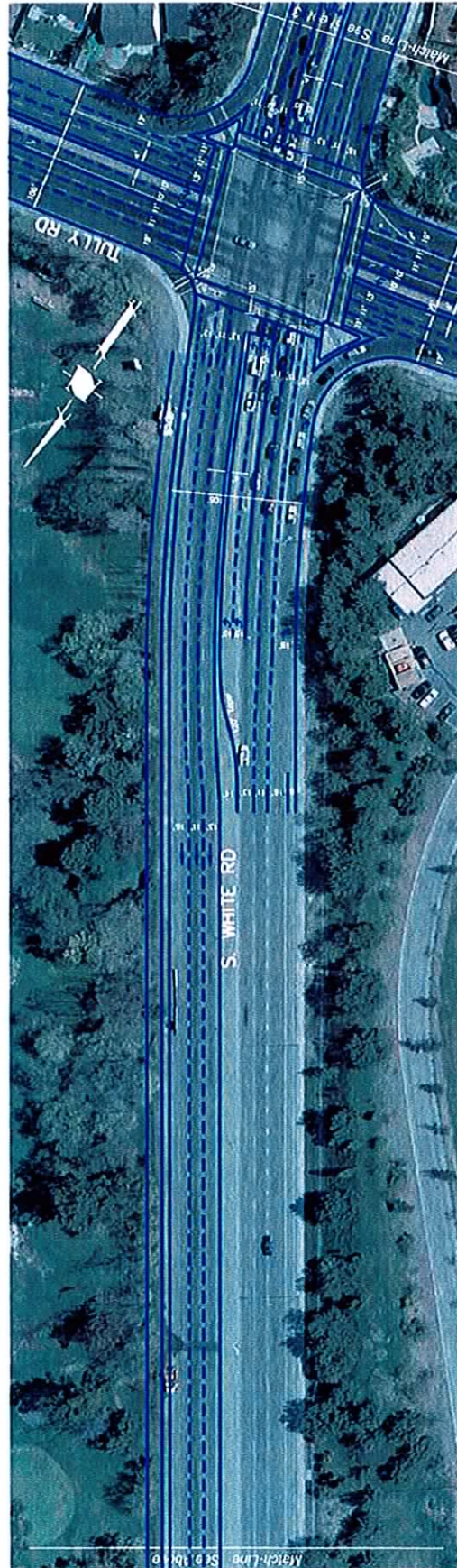
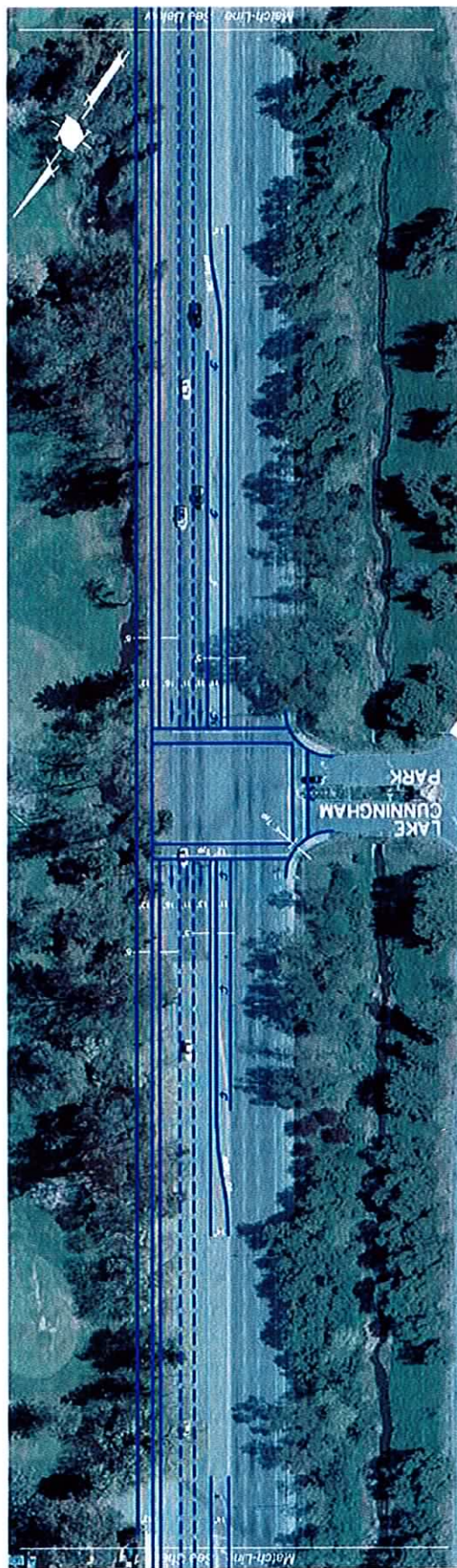


Figure 34

# **WHITE ROAD RECONFIGURATION OCALA AVENUE TO ABORN ROAD SHEET 2 OF 6**

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Figure 35

# **WHITE ROAD RECONFIGURATION OCALA AVENUE TO ABORN ROAD**

**SHEET 3 OF 6**

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Figure 36

# **WHITE ROAD RECONFIGURATION OCALA AVENUE TO ABORN ROAD** **SHEET 4 OF 6**





Figure 37

# **WHITE ROAD RECONFIGURATION OCALA AVENUE TO ABORN ROAD SHEET 5 OF 6**

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Figure 38

# **WHITE ROAD RECONFIGURATION OCALA AVENUE TO ABORN ROAD SHEET 6 OF 6**

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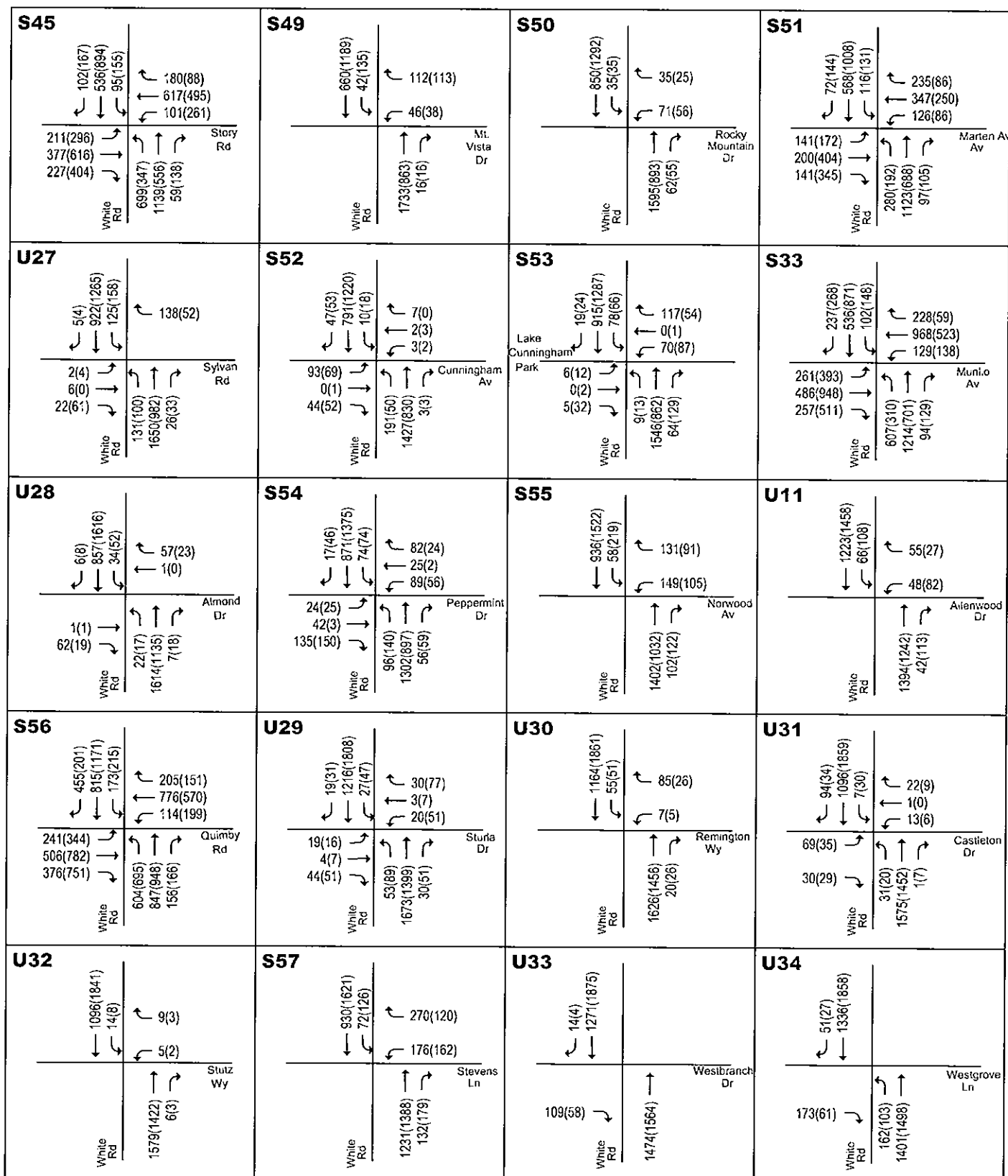


Figure 39A

# WHITE ROAD/SAN FELIPE ROAD PROJECT TRAFFIC VOLUMES SCENARIO V

## Legend

XX(XX) = AM(PM) Peak-Hour Volumes

Hexagon

Transportation Consultants, Inc.

Evergreen • East Hills Vision Strategy

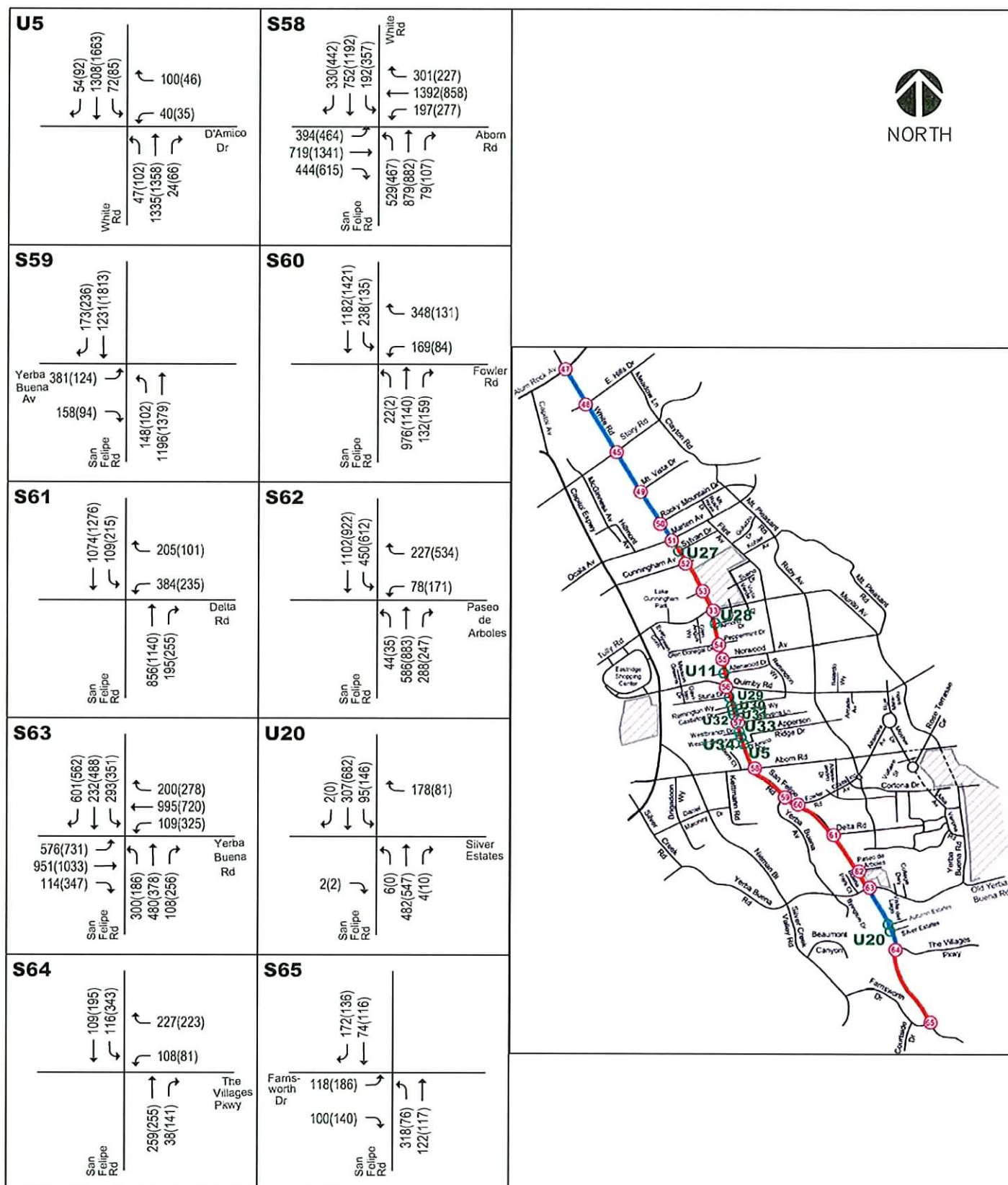


Figure 39B

# WHITE ROAD/SAN FELIPE ROAD PROJECT TRAFFIC VOLUMES SCENARIO V

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## Legend

XX(XX) = AM(PM) Peak-Hour Volumes

Hexagon

Transportation Consultants, Inc.



## Level of Service Analysis

The results show that, according to the City of San Jose's level of service standards for signalized intersections, none of the study intersections would be significantly impacted by the project scenario during the AM or PM peak hours (see Table 32). All of the signalized intersections along White Road / San Felipe Road are expected to operate at LOS D or better.

**Table 32**  
**White Road / San Felipe Road Corridor Level of Service Analysis**

Intersection	Existing				Background				Project V			
	AM		PM		AM		PM		AM		PM	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
White Road and Alum Rock Avenue	50.3	D	43.8	D	53.7	D	43.8	D	51.0	D	44.8	D
White Road and East Hills Drive	26.8	C	22.8	C	26.2	C	22.7	C	26.8	C	22.6	C
White Road and Story Road	43.7	D	46.0	D	45.4	D	45.7	D	44.7	D	47.2	D
White Road and Mt. Vista Drive	11.7	B	13.8	B	11.0	B	12.7	B	11.5	B	13.4	B
White Road and Rocky Mountain Drive	4.1	A	3.1	A	3.6	A	3.0	A	4.0	A	3.2	A
White Road and Marten Avenue	33.0	C	30.2	C	29.2	C	29.5	C	29.0	C	29.5	C
White Road and Cunningham Avenue	13.2	B	14.0	B	12.4	B	12.2	B	15.0	B	14.9	B
White Road and Lake Cunningham Park Dr.	604.0	A	4.0	A	6.0	A	6.7	A	13.7	B	12.6	B
White Road and Tully Road	39.7	D	38.2	D	43.0	D	38.5	D	38.4	D	38.0	D
White Road and Glen Donegal Drive	16.6	B	14.6	B	14.5	B	12.7	B	17.2	B	16.4	B
White Road and Norwood Avenue	13.0	B	13.9	B	11.5	B	13.1	B	12.5	B	14.0	B
White Road and Quimby Road	37.3	D	40.2	D	41.9	D	45.7	D	34.5	C	36.8	D
White Road and Stevens Lane	12.3	B	11.5	B	10.5	B	9.9	A	12.2	B	12.8	B
White Road and Aborn Road	37.5	D	42.1	D	42.8	D	44.4	D	39.9	D	45.6	D
San Felipe Road and Yerba Buena Avenue	18.4	B	8.4	A	18.4	B	8.3	A	19.0	B	10.7	B
San Felipe Road and Fowler Road	19.7	B	9.7	A	19.7	B	10.6	B	19.8	B	10.7	B
San Felipe Road and Delta Road	19.8	B	14.2	B	20.0	B	14.2	B	20.1	C	14.8	B
San Felipe Road and Paseo de Arboles	11.6	B	13.9	B	10.8	B	13.2	B	15.5	B	21.2	C
San Felipe Road and Yerba Buena Road	32.9	C	34.2	C	78.3	E	105.5	F	36.9	D	37.9	D
San Felipe Road and The Villages Pkwy.	16.4	B	16.3	B	16.3	B	15.9	B	16.9	B	16.4	B
San Felipe Road and Farnsworth Drive	16.0	B	13.1	B	15.4	B	13.6	B	16.0	B	15.0	B

## Queueing

The adequacy of left turn pocket storage was evaluated for five signalized intersections in the corridor. The number of vehicles in queue was calculated using the TRAFFIX queue length software. Queue lengths in feet were calculated assuming 20 feet per vehicle. Table 33 summarizes the queueing findings.

## Existing Conditions

The following intersections were observed to have back-ups out of the turn pockets during peak hours.

*White Road and Story Road.* In the PM peak hour, the northbound left-turn queue often spills out of the turn pocket; however, all queued vehicles are able to clear the intersection in one cycle. Traffic on the westbound approach frequently queues past the driveway to the shopping center on the northeast quadrant, causing conflicts with eastbound vehicles attempting to turn left into the shopping center.

*White Road and Ocala Avenue / Marten Avenue.* During the AM peak hour, the queue on westbound Marten Avenue occasionally extends back to the driveway at Mt. Pleasant High School. Although the high school was in session at the time of this observation, no conflicts were observed with this queue.

*White Road and Quimby Road.* In the AM peak hour, the northbound and westbound left-turn pockets often overflow, however all vehicles are served in a single signal cycle. Under the current signal settings, some westbound through traffic occasionally must wait through multiple signal cycles before passing this intersection. In the PM peak hour, the northbound and eastbound left-turn queues occasionally spill out of the turn pockets; however, all queued vehicles are able to clear the intersection in one cycle.

*San Felipe Road and Aborn Road.* Northbound traffic fills the left-turn turn pocket during the AM peak hour and occasionally spills into the adjacent through lane. The queue clears during each signal cycle. During the PM peak hour, traffic fills the eastbound left-turn turn pocket and spills into the adjacent through lane. During each signal cycle the left-turn queue is fully dissipated. Turning movements in and out of the gas station on the southwest corner often slow or block eastbound traffic turning right onto southbound San Felipe Road. The right-turn queue that forms does not clear during some cycles. The queue blocks access to the shopping center driveways on the south side of Aborn Road.

*San Felipe Road and Yerba Buena Road.* The eastbound left-turn movement experiences long queues that extend past the end of the existing turn pocket and spill over to the adjacent through lane during both the AM and PM peak hours. At times, the queue extends past Buena Park Court. The existing signal settings allow the left-turn phase to be extended until all queued vehicles clear the intersection.

## Project Conditions

The following intersections are projected to have left turn queues longer than the existing turn pockets on one or more legs of the intersection.

*White Road and Quimby Road.* The project will increase the number of northbound left turn lanes from one to two. Still a small overflow queue is estimated under project conditions. The overflow is small and is not expected to affect intersection operations.

*San Felipe Road and Aborn Road.* The left turn queue in the northbound direction is estimated to exceed the storage length under background and project conditions. The turn pocket could be lengthened by cutting into the landscaped median. In the southbound direction, the queue is expected to exceed the planned left turn pocket length under project conditions. In order to provide the estimated required storage for southbound left turns from White Road to Aborn Road, the shopping center left turn lane would need to be relocated.



**Table 33**  
**White Road / San Felipe Road Corridor Left-Turn Storage Analysis**

Intersection	Peak Hour	Mvmt	Existing			Background			Proposed			Project Conditions		
			# Lanes	Storage	Per Lane	# Lanes	Storage	Per Lane	# Lanes	Storage	Per Lane	Required Storage	Vehicle Queue	Comments on whether Proposed Left-Turn Storage Fulfills
White Road and Aborn Road	AM	SBL	2	180	2	2	180	36	2	180	2	180	12	120 Adequate
	PM	SBL	2	180	2	2	180	18	2	180	2	180	24	240 Inadequate - The required queue storage could be provided by removing median and landscaping shown in White Rd Corridor Alt. A. (includes elimination of SBL at adjacent commercial driveway into Aborn).
	AM	NBL	2	200	2	2	200	26	2	200	2	200	29	300 Inadequate - NBL turn pocket may be extended to provide the necessary storage by removing median and landscaping.
	PM	NBL	2	200	2	2	200	25	2	200	2	200	30	300 Inadequate -
San Felipe Road and Yorba Buena Road (S)	AM	SBL	1	260	1	1	260	19	2	260	2	260	16	160 Adequate
	PM	SBL	1	260	1	1	260	14	2	260	2	260	21	220 Adequate
	AM	EBL	1	220	1	1	220	21	2	280	2	280	29	300 Inadequate - Improvements to increase storage are not feasible without eliminating EBL into Buena Park Court
	PM	EBL	1	220	1	1	220	35	2	280	2	280	36	360 Inadequate -
San Felipe Road and Pascoe de Arboles	AM	SBL	1	200	1	1	200	7	1	200	1	200	13	260 Inadequate - Improvements to increase storage are not feasible. SBL turn pocket is end-of-end with NBL turn pocket at adjacent driveway.
	PM	SBL	1	200	1	1	200	8	1	200	1	200	20	400 Inadequate -
	AM	WBL	1	480	1	1	480	1	20	1	480	4	80	Adequate
	PM	WBL	1	480	1	1	480	4	80	1	480	8	160	Adequate
White Road and Gurnby Road	AM	SBL	1	240	1	1	240	7	2	240	2	240	9	100 Adequate
	PM	SBL	1	240	1	1	240	8	2	240	2	240	11	120 Adequate
	AM	NBL	1	210	1	1	210	23	2	300	2	300	28	300 Adequate
	PM	NBL	1	210	1	1	210	25	2	300	2	300	32	320 Inadequate - Small storage deficiency would have minor effect on operations and does not warrant improvement.
White Road and Lake Cunningham Park	AM	EBL	1	220	1	1	220	12	2	220	2	220	14	140 Adequate
	PM	EBL	1	220	1	1	220	15	2	220	2	220	19	200 Adequate
	AM	SBL	1	120	1	1	120	0	1	200	1	200	4	80 Adequate
	PM	SBL	1	120	1	1	120	0	1	200	1	200	3	60 Adequate
	AM	WBL	n/a	n/a	n/a	n/a	n/a	n/a	1	80	1	80	4	80 Adequate
	PM	WBL	n/a	n/a	n/a	n/a	n/a	n/a	1	80	1	80	4	80 Adequate

*San Felipe Road and Paseo de Arboles.* The southbound left turn lane would be inadequate under project conditions. It is not possible to lengthen the left turn pocket because of an adjacent pocket.

*San Felipe Road and Yerba Buena Road (S).* The eastbound left turn storage length is shown to be inadequate under background and project conditions. The left turn lanes could be lengthened, but this would require the elimination of left turn access at Buena Park Court.

## Unsignalized Intersection Analysis

The unsignalized study intersections were analyzed to see if signalization or other changes to traffic control would be warranted under existing or project conditions. Peak hour signal warrant checks (*Caltrans Traffic Manual*, Chapter 9, Warrant 11) were performed at twelve unsignalized intersections along the White Road / San Felipe Road Corridor. The peak-hour signal warrant is met at a particular intersection when existing volumes or projected volumes on the major and minor streets reach a defined threshold. Engineering judgment needs to be exercised to determine that a signal would improve the overall safety and operation of the intersection and would not unduly disrupt traffic flow on the major street.

None of the twelve unsignalized intersections is recommended for signalization. The results are summarized in Table 34. Many of the intersections are recommended to have “S” medians. These allow left turns into the side streets but do not allow left turns out from the side streets. City of San Jose policy does not allow full access unsignalized intersections on six-lane arterials. Therefore, the choices are to install a signal (only if warranted), install an “S” median, or install a solid median (no left turns in or out).

**Table 34**

### White Road / San Felipe Road Corridor Signal Warrants Analysis

Intersection	Existing		Project Scenario V		Recommendations
	AM Peak Warrant Met?	PM Peak Warrant Met?	AM Peak Warrant Met?	PM Peak Warrant Met?	
White Road and Sylvan Drive	No	No	No	No	Install S median
White Road and Almond Drive	No	No	No	No	Install S median
White Road and Allenwood Drive	No	No	No	No	Install S median (no outbound LT)
White Road and Sturla Drive	No	No	No	No	Install solid median on White north of Sturla, leave Sturla as is (one-way stop, T)
White Road and Remington Way	No	No	No	No	Leave as is (one-way stop, T)
White Road and Castleton Drive	No	No	No	No	Leave as is (2-way stop)
White Road and Stutz Way	No	No	No	No	Leave as is (one-way stop, T)
White Road and Westbranch Drive	No	No	No	No	Close median, RT only
White Road and Westgrove Lane	No	No	No	No	Install S median
White Road and D'Amico Drive	No	No	No	No	Install S median, no outbound left turn
San Felipe Road and Autumn Estates	No	No	No	No	Leave as is
San Felipe Road and Silver Estates	No	No	No	No	Leave as is (2-way stop with S median)



*White Road / Sylvan Drive.* Signal warrants are not met for this intersection. An S-median is suitable for the circumstances of this intersection.

*White Road / Almond Drive.* Signal warrants are not met for this intersection. An S-median is suitable for the circumstances of this intersection.

*White Road / Allenwood Drive.* Signal warrants are not met for this intersection. An S-median is suitable for the circumstances of this intersection.

*White Road / Sturla Drive.* Signal warrants are not met for this intersection. A solid median should be placed on White Rd. north of Sturla. White and Sturla should be left as is. This intersection can be left as is (full access) because White Road will remain only four lanes at this location.

*White Road / Westbranch Drive.* Signal warrants are not met. The median should be closed, and right turns only permitted. Access to the neighborhood can be maintained at Westgrove Lane.

*White Road / Westgrove Lane.* Signal warrants are not met for this intersection. An S-median is suitable for the circumstances of this intersection.

*White Road / D'Amico Drive.* Signal warrants are not met for this intersection. This intersection is located adjacent to a shopping center, which may seek to redevelop at a future date. At that time, it may be desirable to locate a driveway opposite D'Amico Drive. At that time, this intersection should be reevaluated for signalization. Until then, an S-median is desirable for safety reasons at this intersection.

## ITS Plan

Intelligent Transportation Systems, or ITS, is the use of communications and computer technology to increase the efficiency of signal operations and reduce delays in the system. The City of San Jose has developed an ITS plan for the Evergreen area. The plan calls for traffic surveillance cameras and signal interconnect systems to be installed via cables, conduit, and trunk lines or wireless links where appropriate. Cameras are planned to be added to six intersections within the corridor:

*White Road and Story Road*

*White Road and Ocala Avenue*

*White Road and Tully Road*

*White Road and Quimby Road*

*White Road and Aborn Road*

*San Felipe Road and Yerba Buena Road*

The entire length of White Road through Evergreen already has signal interconnect cable installed. The plan calls for new conduit and communication cables to be installed on San Felipe Road from Aborn Road to Delta Road. The plan also calls for a wireless communication link to be installed on San Felipe Rd. from Delta Road to The Villages Parkway, and on Norwood Ave. from the intersection of White Rd. / Norwood Ave. to the intersection of Ruby Ave. / Norwood Ave. (see Figure 40).

## Pedestrian and Bicycle Facilities

The corridor was evaluated for pedestrian and bicycle access. Recommendations for improvement are made where appropriate.

### ***Pedestrians***

Sidewalks exist on both sides of White Road through Evergreen except on the east side of White Road along the front of the Pleasant Hills Golf Course Property development site. A sidewalk would be added to this section as part of the Pleasant Hills Golf Course Property development. Sidewalks are intermittent along San Felipe Road. The EEHVS may fund either wholly or partially miscellaneous transportation improvement projects at to-be-determined locations in the Evergreen • East Hills area. Such improvements may include new sidewalks. The City may want to consider as a candidate for these funds construction of the necessary sidewalk sections on San Felipe Road.

### ***Bicycles***

Bike lanes exist on White Road and San Felipe Road from Ocala Avenue in the north to Yerba Buena Road in the south. North of Ocala Avenue, White Road is identified as a bike route. No changes are planned according to the City of San Jose Bicycle Network Planning Map.

## Summary of Improvements

Project improvements to the White Road / San Felipe Road Corridor are as follows (see Figure 40):

### ***Required Transportation Improvements***

- At the *White Road / Ocala Avenue / Marten Avenue* intersection widen the westbound approach to add a second through lane. Restripe the eastbound approach to accommodate a second through lane.
- Add a second left-turn lane to each of the four approaches at the *White Road / Tully Road* Intersection. Add a third through lane to the northbound, southbound and eastbound approaches. The above modifications would eliminate the separate right-turn lanes on the eastbound and westbound approaches.
- Add a third through lane to the northbound and southbound approaches of the *White Road / Norwood Avenue* intersection. Add a left/U-turn lane to the northbound White Road approach.
- Add a second left-turn lane to each of the four approaches at the *White Road / Quimby Road* intersection. Add a third through lane to the northbound and southbound approaches.
- Add a third through lane to the northbound approach of the *White Road / Stevens Lane* intersection. Add a left/U-turn lane to the northbound White Road approach.
- Add a second left-turn lane to the westbound approach of the *White Road / San Felipe Road / Aborn Road* intersection. Lengthen the northbound and southbound left-turn pockets. Add a third through lane to the southbound approach.



- Add a second left-turn lane to the eastbound, westbound and southbound approaches at the *Yerba Buena Road / San Felipe Road* intersection. Lengthen the eastbound left turn pocket. These improvements will necessitate the closing of the median on Yerba Buena Road at the *Buena Park Court and Yerba Buena Road* intersection.
- Build White Road to its full six-lane cross-section with raised median and bike lanes from Ocala Avenue to Aborn Road (except from Sturla Drive to Stutz Way). Install “S” medians at Sylvan Drive, Almond Drive, Allenwood Drive, Westgrove Lane, and D’Amico Drive.

### ***Recommended Transportation Amenities***

- Add ITS camera systems and accompanying communication systems to the intersections of *White Road and Story Road*, *White Road and Ocala Avenue*, *White Road and Tully Road*, *White Road and Along Quimby Road*, *White Road and Aborn Road*, *San Felipe Road and Yerba Buena Road*, add wireless and conduit communication links as appropriate.
- Consider use of EEHVS miscellaneous transportation improvement funds to add sidewalks to *San Felipe Road* where they are missing.
- Consider a study of potential weekend traffic signal coordination on *White Road*.

### ***Required as Part of Site Development***

- Modify the traffic signal at *White Road and Lake Cunningham Park Drive* to add a fourth leg for the Pleasant Hills Golf Course Property development.
- Build a sidewalk on *White Road* along the frontage of the Pleasant Hills Golf Course Property development.

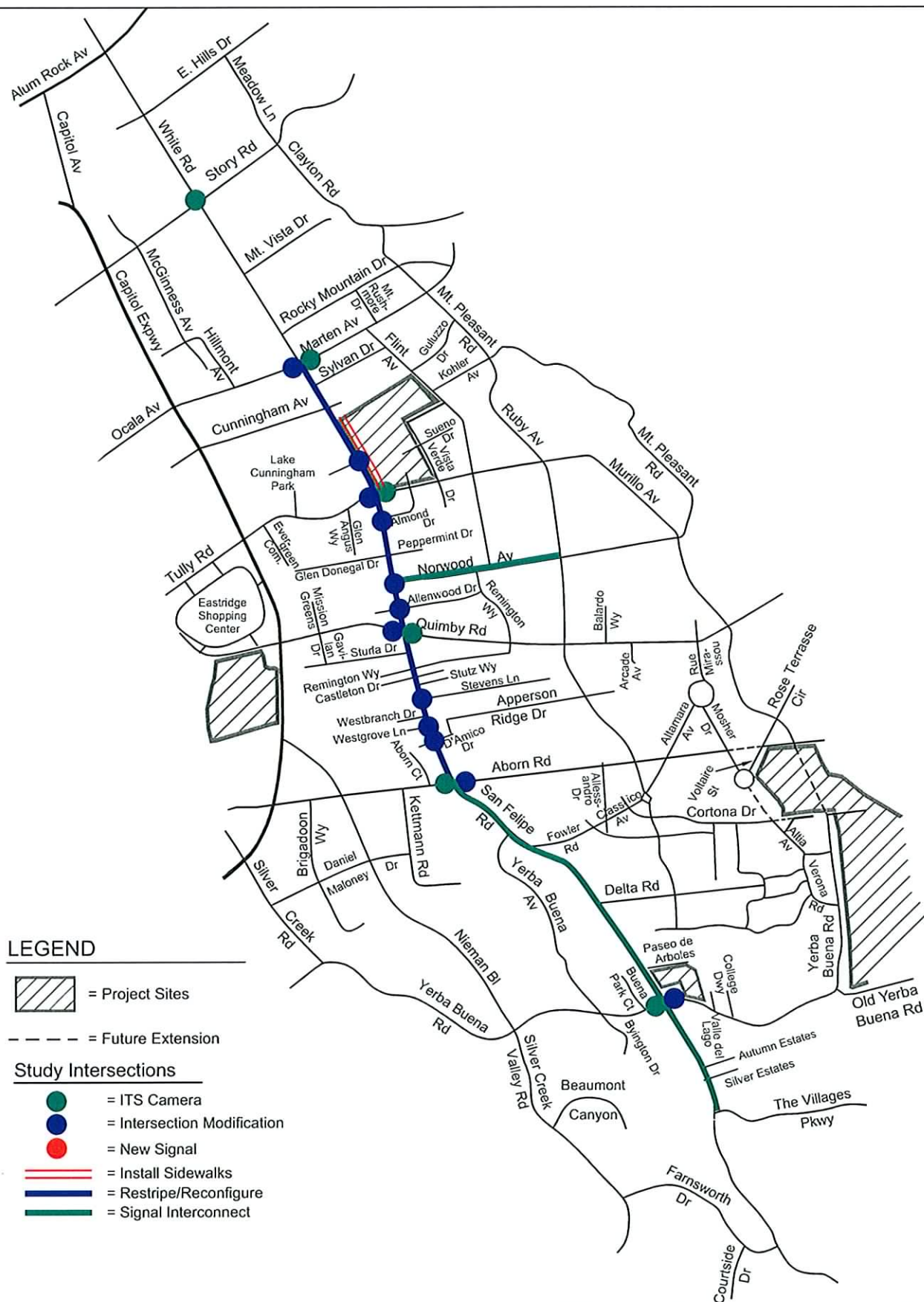


Figure 40

# **WHITE ROAD / SAN FELIPE ROAD CORRIDOR IMPROVEMENTS**

Evergreen • East Hills Vision Strategy



## 13.

# Mt. Pleasant / Ruby Avenue Corridor

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This chapter describes the transportation system in the Mt. Pleasant Road / Ruby Avenue Corridor, including roadway cross-section, signalized and unsignalized intersection operations and pedestrian and bicycle facilities. The Mt. Pleasant Road / Ruby Avenue Corridor in the Evergreen • East Hills area extends from the Mt. Pleasant Drive / Clayton Road intersection southward approximately three miles to the Ruby Avenue / Falls Creek Drive intersection (Figure 41), providing access to many housing areas and two schools: Robert Sanders Elementary School at Mount Pleasant Road and Harvest Drive, and Evergreen Valley High School at Ruby Avenue and Quimby Road.

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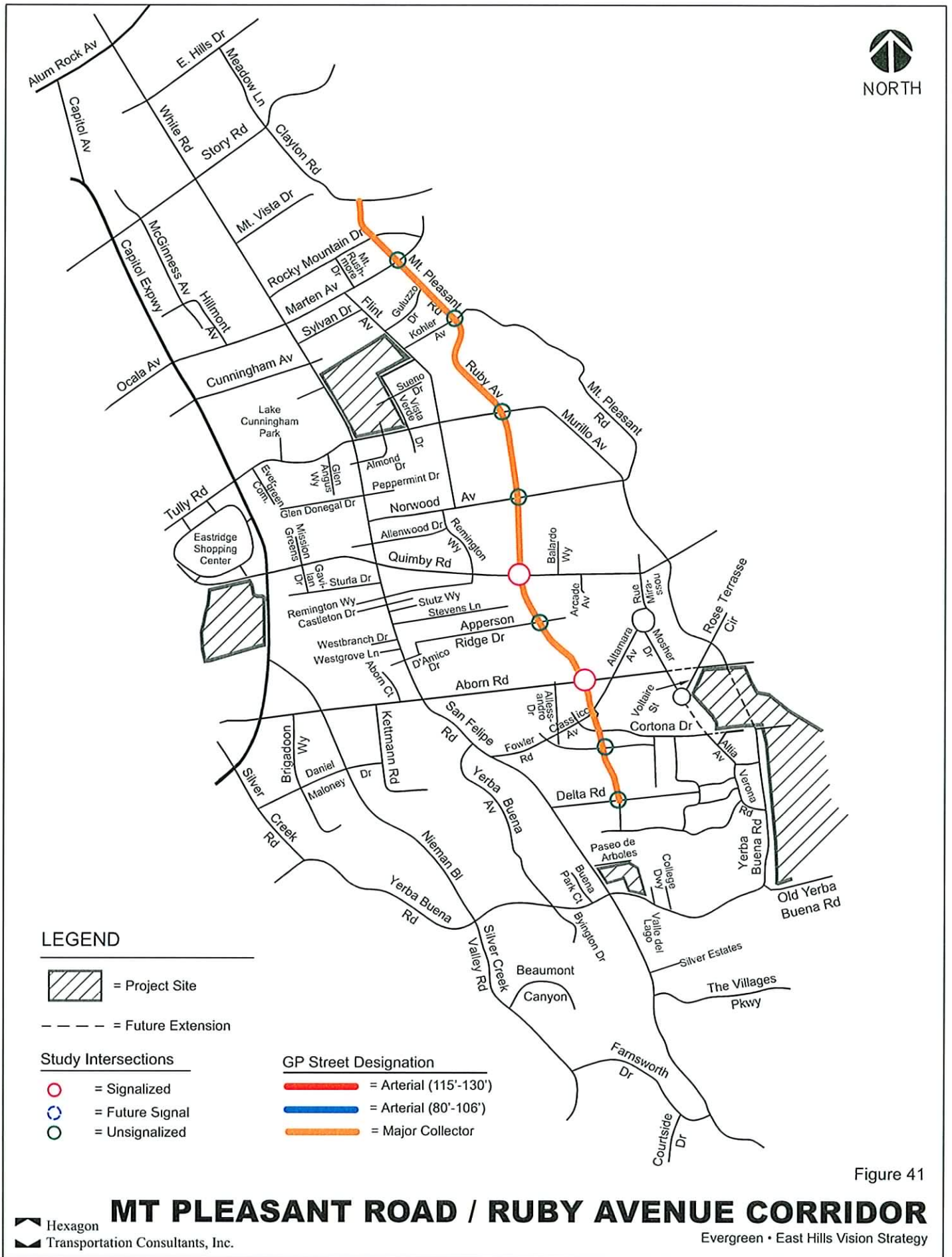


Figure 41



## Roadway Cross-Section

The section of *Mount Pleasant Road* from Clayton Road to Kohler Avenue is a designated Major Collector – Four Lanes in the General Plan (see Figure 41). It is proposed for downgrade to a two-lane collector. The existing configuration generally is 66 feet of street width, two lanes with parking on both sides, with a few notable exceptions. Between Rocky Mountain Drive and Marten Avenue, the road narrows to about 38 feet, still two lanes with parking on both sides, to go around about four remnant land parcels. The road narrows again between Rubicon Drive and Pleasant Knoll Drive to go around one (large) remnant parcel. In this section the road is very narrow – less than 30 feet – and has no parking. There is another short narrow section, about 42 feet street width, to go around one small parcel at the intersection with Kohler Avenue.

Field observations show that Mt. Pleasant Road functions well as a two-lane road. If it is to remain a two-lane road, as the General Plan Amendment requests, then it could be made into a 66-foot wide multi-modal street. This would have two travel lanes, a center turn lane, bike lanes, and on-street parking. This would be an appropriate design for Mt. Pleasant Road. Since some sections currently are narrower than 66 feet, it would be appropriate to require road widening at the time adjacent properties develop or redevelop.

*Ruby Avenue* from the Mt. Pleasant Rd. and Kohler Avenue intersection in the north to Delta Road in the south is a designated four-lane Major Collector in the General Plan (see Figure 35). The proposal is to downgrade the designation to a two-lane local street, i.e., not a General Plan street. Ruby Ave. is at least 66 feet in width from Kohler Avenue to Aborn Road, except for a section from Holderman Drive to Tully Road that is about 40 feet wide. This section is unimproved on the east side and fronts several undeveloped or underdeveloped land parcels. Ruby Avenue is striped mostly as a two-lane road. There is a short section striped for four lanes, although still the same width, from Quimby Road to Apperson Ridge Road. From Apperson Ridge Road to Aborn Rd. Ruby Avenue returns to a two-lane configuration. South of Aborn Road, Ruby Avenue narrows while still maintaining two lanes, until it reaches a traffic circle at Michelangelo, where it becomes one lane, single direction. Following the circle, Ruby resumes a narrow two lane configuration until it reaches Cortona Drive, where its width increases as a two-lane road, with a center median and turn lanes at cross-streets. Ruby maintains this configuration until it reaches Delta Road. South of Delta, Ruby continues as a two-lane road, but this section is not a General Plan street. Signalized intersections occur at Quimby Road and at Aborn Road. Four-way stop intersections occur at Tully Rd, Norwood Ave., Cortona Drive, Fowler Rd., and Delta Rd. The proposed downgrade in designation would be consistent with the existing road configuration.

Ruby Avenue should be considered for a multi-modal cross-section. Most of it is at least 66 feet wide, which would accommodate two travel lanes, a center turn lane, bike lanes and on-street parking. The narrow part between Holderman Drive and Tully Road could be widened to 66 feet as redevelopment occurred on adjacent parcels.

## Traffic Operations

This section describes existing and future levels of service at signalized intersections. It also includes an analysis of traffic control options for unsignalized intersections. The intersections studied along the Mt. Pleasant Road / Ruby Avenue Corridor are displayed in Figure 41 and are as follows:

### ***Signalized Intersections Analyzed***

- *Ruby Avenue and Quimby Road*
- *Ruby Avenue and Aborn Road*

### ***Unsignalized Intersections Analyzed***

- *Mt. Pleasant Road and Marten Avenue*
- *Mt. Pleasant Road / Ruby Avenue and Kohler Avenue*
- *Ruby Avenue and Tully Road*
- *Ruby Avenue and Norwood Avenue*
- *Ruby Avenue and Apperson Ridge Drive*
- *Ruby Avenue and Fowler Road*
- *Ruby Avenue and Delta Road*

### ***Planned / Background Improvements***

There are no background roadway improvement projects located along the Mt. Pleasant Road / Ruby Avenue Corridor.

### ***Required Transportation Improvements***

The proposed project includes numerous improvements to the surrounding transportation network including improvements to freeways, expressways, and local streets. There are two required and funded new traffic signals, described in a following section below. The following improvements along Mt. Pleasant Road / Ruby Avenue would also be fully funded by the project:

*Ruby Avenue / Aborn Road.* Modify the phasing of the existing traffic signal to provide protected left turns on the northbound and southbound approaches.

*Downgrading of Selected Roadway.* The Evergreen • East Hills Vision Strategy would remove the Major Collector General Plan designation for Ruby Avenue. Ruby Avenue would become a non-General Plan street.

### ***Project Volumes***

Turning movement volumes under project conditions at studied intersections in the corridor are shown in Figure 42.



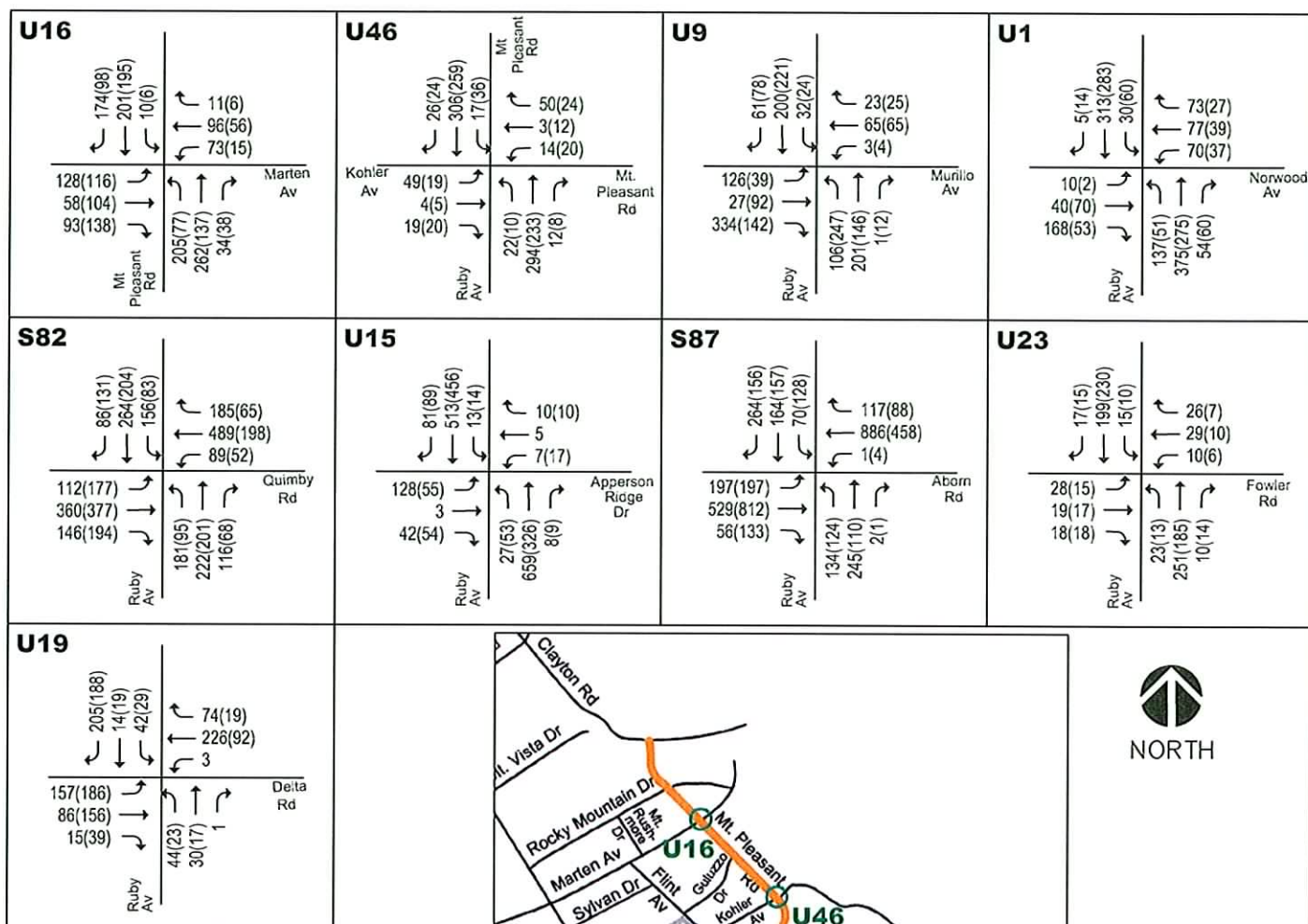


Figure 42

# MT PLEASANT ROAD / RUBY AVENUE PROJECT TRAFFIC VOLUMES SCENARIO V

## Legend

XX(XX) = AM(PM) Peak-Hour Volumes

Hexagon

Transportation Consultants, Inc.

Evergreen • East Hills Vision Strategy

## Level of Service Analysis

The level of service calculations show that the two signalized intersections in the corridor will continue to operate at LOS C or better during the AM and PM peak hours (see Table 35).

**Table 35**

### Mt. Pleasant Road / Ruby Avenue Corridor Level of Service Analysis

Intersection	Existing				Background				Project V			
	AM		PM		AM		PM		AM		PM	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Ruby Avenue and Quimby Road	31.7	C	28.5	C	32.4	C	31.1	C	33.2	C	30.2	C
Ruby Avenue and Aborn Road	23.6	C	22.8	C	19.9	B	20.8	C	30.6	C	29.7	C

## Unsignalized Intersection Analysis

The unsignalized study intersections were analyzed to see if signalization or other changes to traffic control would be warranted under existing or project conditions. Peak hour signal warrant checks (*Caltrans Traffic Manual*, Chapter 9, Warrant 11) were performed at seven unsignalized intersections along the Ruby Avenue Corridor (Table 36). The peak-hour signal warrant is met at a particular intersection when existing volumes or projected volumes on the major and minor streets reach a defined threshold. Engineering judgment needs to be exercised to determine that a signal would improve the overall safety and operation of the intersection and would not unduly disrupt traffic flow on the major street.

**Table 36**

### Mt. Pleasant Road / Ruby Avenue Corridor Signal Warrants Analysis

Intersection	Existing		Project Scenario V		Recommendations
	AM Peak	PM Peak	AM Peak	PM Peak	
	Warrant Met?	Warrant Met?	Warrant Met?	Warrant Met?	
Mt. Pleasant Road and Marten Avenue	No	No	No	No	Leave as is (4-way stop)
Mt. Pleasant Road/Ruby Avenue and Kohler Avenue	No	No	No	No	Leave as is (4-way stop)
Ruby Avenue and Tully Road	No	No	No	No	Install signal
Ruby Avenue and Norwood Avenue	No	No	No	No	Install signal
Ruby Avenue and Apperson Ridge Drive	No	No	No	No	Leave as is (2-way stop)
Ruby Avenue and Fowler Road	No	No	No	No	Leave as is (2-way stop)
Ruby Avenue and Delta Road	No	No	No	No	Leave as is (4-way stop)



*Ruby Avenue / Tully Road and Ruby Avenue / Norwood Avenue.* Traffic signals are recommended at these two intersections. These intersections are located where a major cross street intersects a General Plan street. It is anticipated that signal warrants will be met at some time in the future. The existing four-way stops at these intersections were installed as an interim measure until funding could be obtained for signals. The City generally seeks to avoid four-way stops on major streets because they cause unnecessary delay.

## **ITS Plan**

Intelligent Transportation Systems, or ITS, is the use of communications and computer technology to increase the efficiency of signal operations and reduce delays in the system. The City of San Jose has developed an ITS plan for the Evergreen area. The plan calls for traffic surveillance cameras and signal interconnect systems to be installed via cables, conduit, and trunk lines or wireless links where appropriate. Cameras are planned to be added to one intersection within the corridor:

### *Ruby Avenue and Aborn Road*

This intersection will be tied into the signal interconnect system on Aborn Road. The new traffic signal at Ruby Ave. / Norwood Ave. will be interconnected by wireless link to the traffic signal at White Rd. / Norwood Ave. (see Figure 43).

## **Pedestrian and Bicycle Facilities**

The corridor was evaluated for pedestrian and bicycle access. Recommendations for improvement are made where appropriate.

### ***Pedestrians***

Sidewalks exist on both sides of Mt. Pleasant Road and Ruby Avenue except where there are some remnant parcels with unimproved frontages. It doesn't make sense to add sidewalks at these locations now because the sidewalks would need to be replaced when the parcels redevelop and the full roadway width is obtained. Sidewalks should be added at that time. Access to Robert Sanders Elementary School on Mt. Pleasant Road at Harvest Drive is aided by crosswalks. Access to Evergreen Valley High School is aided by a signal at the intersection of Ruby Avenue and Quimby Road.

### ***Bicycles***

Bike lanes do not exist on Mt. Pleasant Road or Ruby Avenue. Bike lanes could be added if these streets are restriped to a multi-modal cross-section. The City of San Jose Bicycle Network Planning Map shows Mt. Pleasant Road and Ruby Avenue as a future bicycle corridor.

## Summary of Improvements

Project improvements to the Ruby Avenue Corridor are as follows (see Figure 43):

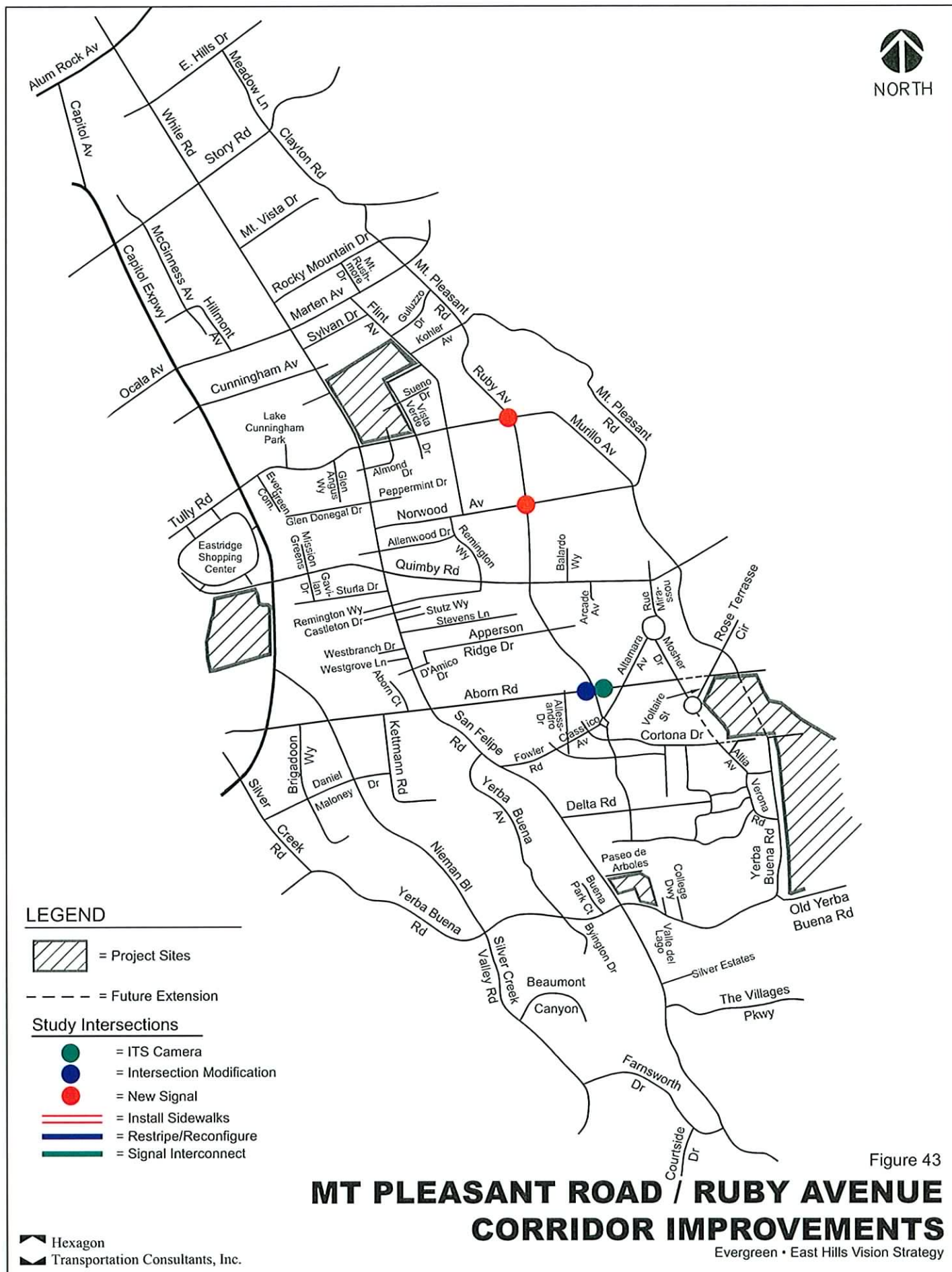
### ***Required Transportation Improvements***

- Install a traffic signal at the *Ruby Avenue / Tully Road* intersection.
- Install a traffic signal at the *Ruby Avenue / Norwood Avenue* intersection.
- At the *Ruby Avenue / Aborn Road* intersection modify the phasing of the existing traffic signal to provide protected left turns on the northbound and southbound approaches.
- The Evergreen • East Hills Vision Strategy would remove the Major Collector General Plan designation for *Mt. Pleasant Road / Ruby Avenue*.

### ***Recommended Transportation Amenities***

- Install ITS traffic camera systems at the intersection of *Ruby Avenue and Aborn Road*. Install communication cables, conduit and wireless links as appropriate at Ruby Ave./ Aborn Rd. and at Ruby Ave./Norwood Ave.
- Consider converting *Mt. Pleasant Road / Ruby Avenue* into a multi-modal cross-section, which would provide bike lanes.





## 14.

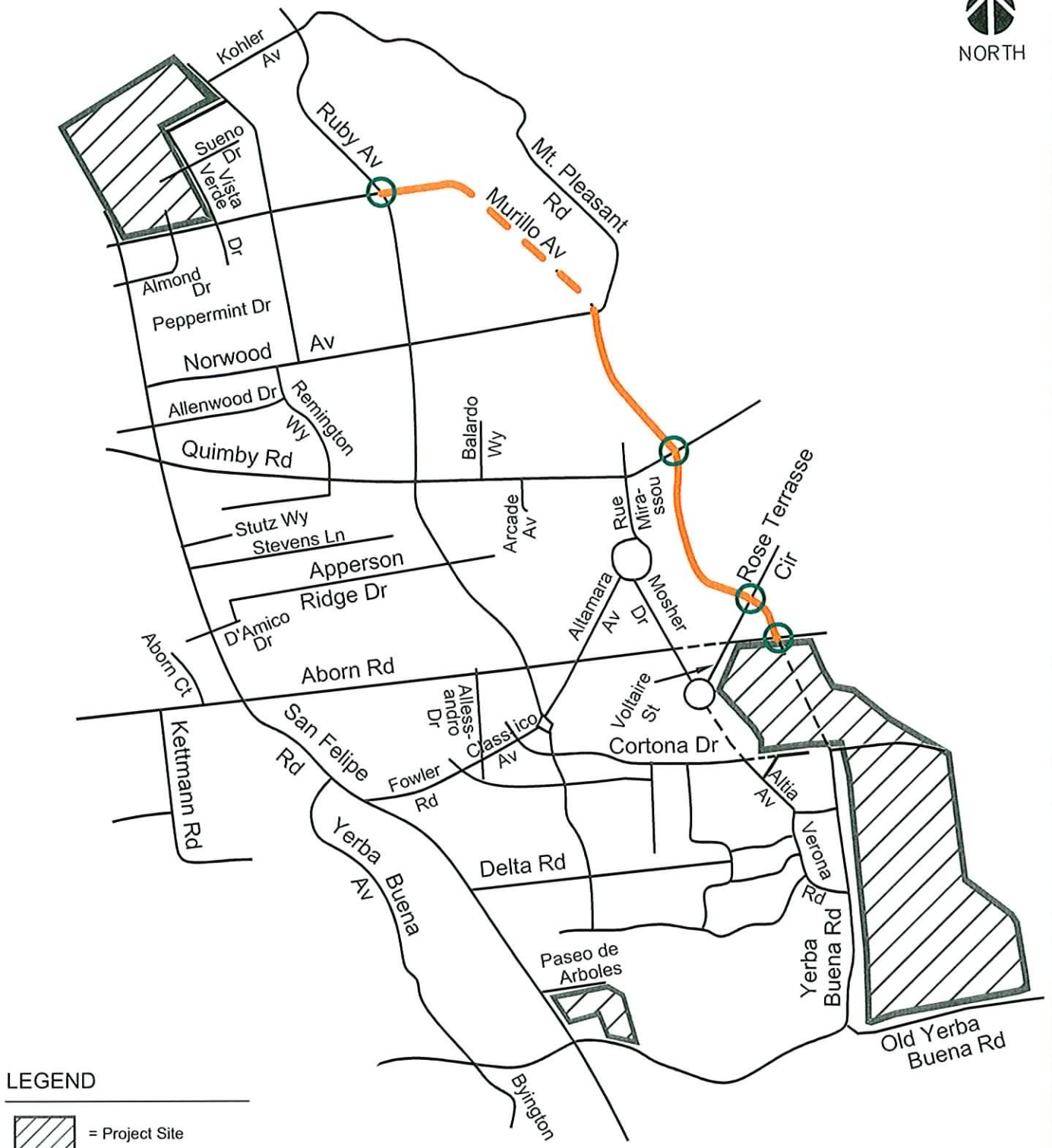
# Murillo Avenue Corridor

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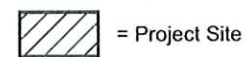
This chapter describes the transportation system in the Murillo Avenue Corridor, including roadway cross-section, unsignalized intersection operations, and pedestrian and bicycle facilities. The Murillo Avenue Corridor in the Evergreen • East Hills area extends from Ruby Avenue and Tully Road approximately two miles southeast to Aborn Road (Figure 44), providing access to many housing areas.

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#### LEGEND



--- = Future Extension

#### Study Intersections

-  = Signalized
-  = Future Signal
-  = Unsignalized

#### GP Street Designation



-  = Arterial (115'-130')
-  = Arterial (80'-106')
-  = Major Collector

Figure 44

## MURILLO AVENUE CORRIDOR

Evergreen • East Hills Vision Strategy



## Roadway Cross-Section

Murillo Avenue runs north-south from the intersection of Ruby Avenue and Tully Road to Aborn Road. Murillo Ave. is discontinuous across Groesbeck Hill Park from Groesbeck Hill Drive to a point just south of Groesbeck Hill Park, where it resumes to run its course to Aborn Rd. The current General Plan designation is four-lane collector for its entire length. The EEHVS includes a proposal to downgrade the General Plan designation of Murillo Ave. to a two-lane collector. The section of Murillo Avenue north of Groesbeck Park and south of the park to Slopeview Drive is two lanes with about 30 feet roadway width. South of Slopeview Drive, Murillo is 66 feet wide, but still striped as two lanes to Quimby Road. South of Quimby Road, Murillo is striped for four lanes plus left turn lanes and has a width of 82 feet.

Field observations show that Murillo Avenue functions well as a two-lane road. The General Plan Amendment requests for Murillo to remain a two-lane road. The 82-foot four-lane section south of Quimby Road should remain as is. All of the sections of Murillo Avenue that are less than 66 feet wide have undeveloped property on at least one side of the road. It is reasonable to expect that as the properties develop in the future, Murillo Ave. could be widened to the full 66 feet. It would be appropriate to stripe Murillo as a multi-modal street: two travel lanes, a two-way center turn lane, bike lanes, and on-street parking.

## Traffic Operations

This section describes existing and future traffic control options for unsignalized intersections in the corridor. The intersections studied along the Murillo Avenue Corridor are displayed in Figure 44 and are as follows:

### ***Unsignalized Intersections Analyzed***

- *Ruby Avenue and Tully Road / Murillo Avenue*
- *Murillo Avenue and Quimby Road*
- *Murillo Avenue and Rose Terrasse Circle*
- *Murillo Avenue and Aborn Road*

### ***Planned / Background Improvements***

There are no background improvements planned for the Murillo Avenue Corridor. It is assumed that the discontinuous portion of Murillo Avenue adjacent to Groesbeck Hill Park will be built when the fronting property develops.

### ***Required Transportation Improvements***

The proposed project includes numerous improvements to the surrounding transportation network including improvements to freeways, expressways, and local streets. There is one required and funded new traffic signal, described in a following section below. The following improvement along Murillo Avenue would also be fully funded by the project:

*Downgrading of Selected Roadway.* The Evergreen • East Hills Vision Strategy would downgrade the General Plan designation for Murillo Avenue from a four-lane collector to two-lane collector. This could allow Murillo Avenue to be striped as a multi-modal street.

## Project Volumes

Traffic volumes on the Murillo Avenue Corridor under project conditions are displayed in Figure 45.

## Unsignalized Intersection Analysis

Four unsignalized study intersections were analyzed to see if signalization or other changes to traffic control would be warranted under existing or project conditions. Peak hour signal warrant checks (*Caltrans Traffic Manual*, Chapter 9, Warrant 11) were performed at the unsignalized study intersections along the Murillo Avenue Corridor. The peak-hour signal warrant is met at a particular intersection when existing volumes or projected volumes on the major and minor streets reach a defined threshold. Engineering judgment needs to be exercised to determine that a signal would improve the overall safety and operation of the intersection and would not unduly disrupt traffic flow on the major street.

*Ruby Avenue and Tully Road / Murillo Avenue.* Signalization is recommended for this intersection (Table 37). This intersection is located where a major cross street intersects a General Plan street. It is anticipated that signal warrants will be met at some time in the future. The existing four-way stop at this intersection was installed as an interim measure until funding could be obtained for a signal. The City generally seeks to avoid four-way stops on major streets because they cause unnecessary delay.

*Murillo Avenue and Quimby Road.* This intersection currently is not expected to meet warrants. However, conditions may change as development occurs in the area. This intersection should be monitored for potential future signalization.

*Murillo Avenue and Aborn Road.* With buildout of the Evergreen Specific Plan area and with the proposed EEHVS project, this intersection is projected to meet signal warrants (see Table 37). A traffic signal should be installed in conjunction with development of the Berg / IDS / Legacy Properties project.

**Table 37**

### Murillo Avenue Corridor Signal Warrants Analysis

Intersection	Existing		Project Scenario V		Recommendations
	AM Peak	PM Peak	AM Peak	PM Peak	
	Warrant Met?	Warrant Met?	Warrant Met?	Warrant Met?	
Ruby Avenue and Tully Road / Murillo Avenue	No	No	No	No	Install signal
Murillo Avenue and Quimby Road	No	No	No	No	Leave as is (4-way stop)
Murillo Avenue / Yerba Buena Road and Aborn Road	No	No	Yes	Yes	Install signal
Murillo Avenue and Rose Terrasse Cir/Voltaire St	No	No	No	No	Leave as is (two-way stop)

<b>U9</b> 	<b>U8</b> 	<b>U38</b> 	<b>U10</b> 
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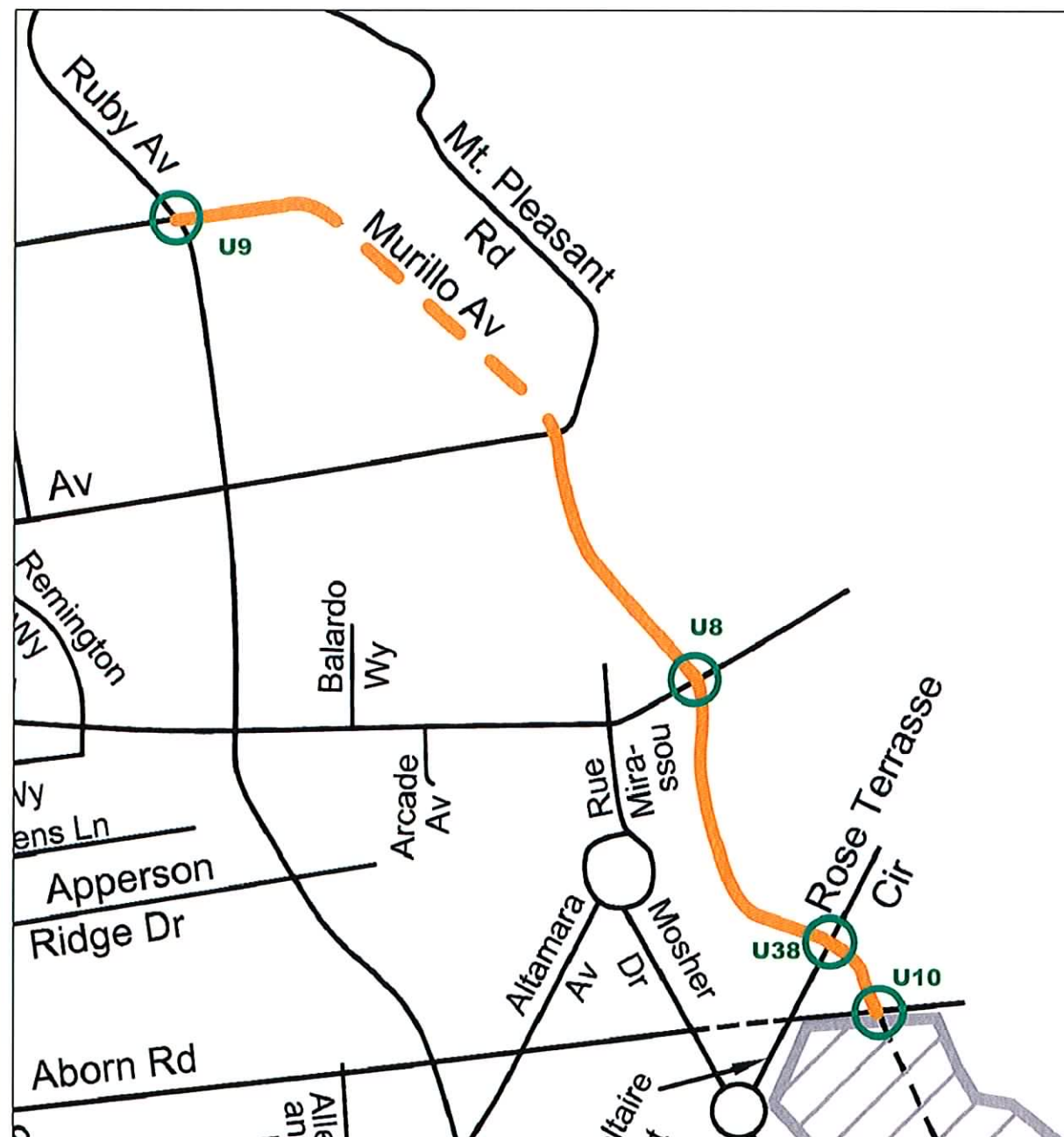


Figure 45

# MURILLO AVENUE PROJECT TRAFFIC VOLUMES SCENARIO V

## Legend

XX(XX) = AM(PM) Peak-Hour Volumes

Hexagon

Transportation Consultants, Inc.

Evergreen • East Hills Vision Strategy



## ITS Plan

Intelligent Transportation Systems, or ITS, is the use of communications and computer technology to increase the efficiency of signal operations and reduce delays in the system. The City of San Jose has developed an ITS plan for the Evergreen area. The plan calls for traffic surveillance cameras and signal interconnect systems to be installed via cables, conduit, and trunk lines or wireless links where appropriate. There are no ITS-related improvements to the Murillo Avenue Corridor, except at Tully Road and Aborn Road, where the ITS systems cross Murillo Avenue (see Figure 46).

## Pedestrian and Bicycle Facilities

The corridor was evaluated for pedestrian and bicycle access. Recommendations for improvement are made where appropriate.

### ***Pedestrians***

Many parts of Murillo Avenue are unimproved on at least one side of the street, and these sections do not have sidewalks. Sidewalks should be added as the adjacent properties redevelop.

### ***Bicycles***

Bike lanes do not exist on Murillo Avenue. However, if the street were to be restriped as a multi-modal street, then bike lanes could be added. The existing four-lane sections of Murillo Avenue, also, are wide enough for bike lanes. However, the City of San Jose Bicycle Network Planning Map does not specify any bike facilities on Murillo Avenue.

## Summary of Improvements

Project improvements to the Murillo Avenue Corridor are as follows (see Figure 46):

### ***Required Transportation Improvements***

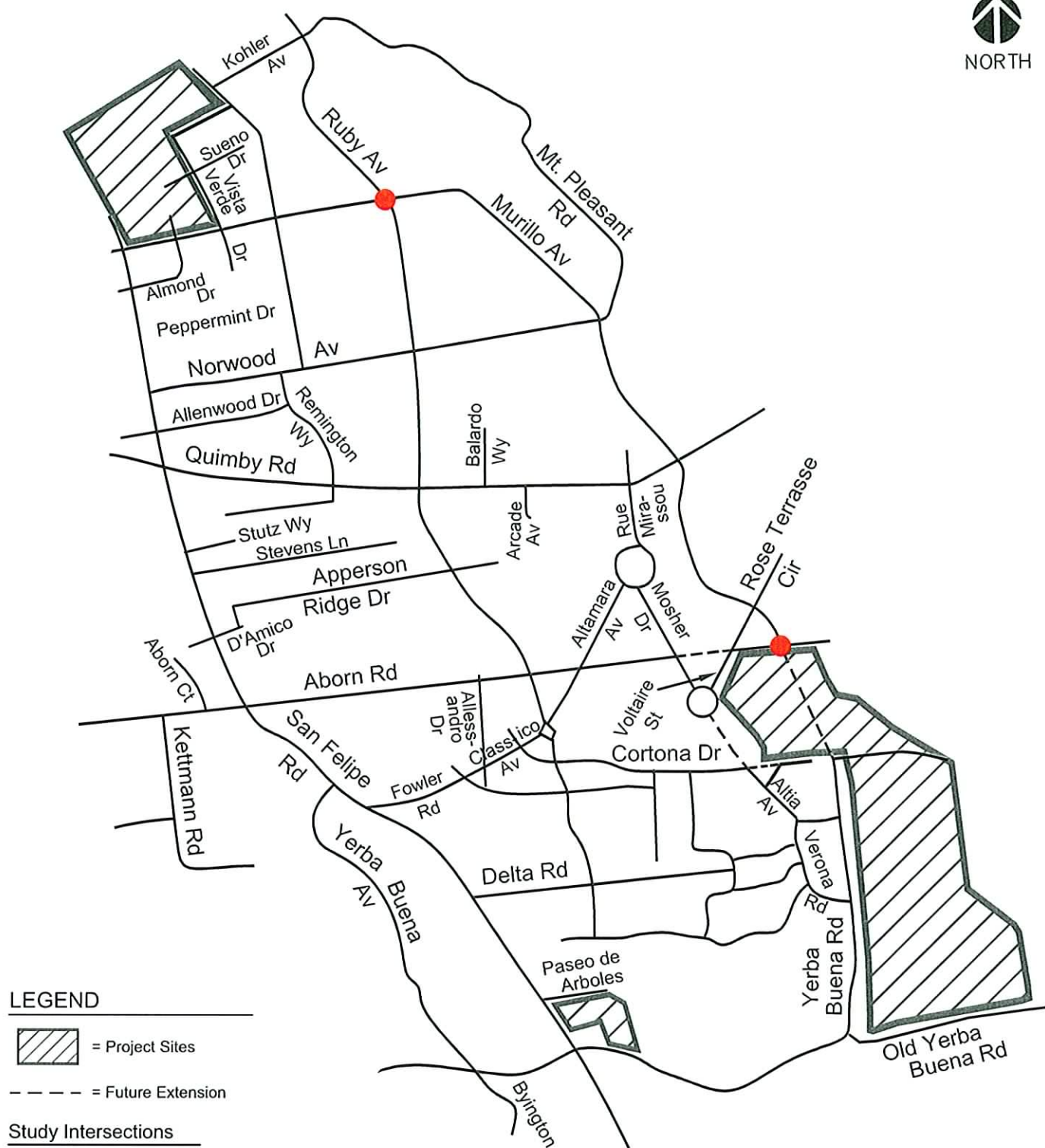
- Install a traffic signal at the *Ruby Avenue / Tully Road / Murillo Avenue* intersection.
- The Evergreen • East Hills Vision Strategy would downgrade the General Plan designation for *Murillo Avenue* from a four-lane collector to two-lane collector.

### ***Recommended Transportation Amenities***


- Consider striping *Murillo Avenue* as a multi-modal street on the 66 feet wide sections. Widen all sections to 66 feet as adjacent properties develop.

### ***Required as Part of Site Development***

- Install a traffic signal at the *Murillo Avenue / Aborn Road* intersection.



# LEGEND

 = Project Sites

--- = Future Extension

## Study Intersections

-  = ITS Camera
-  = Intersection Modification
-  = New Signal
-  = Install Sidewalks
-  = Restripe/Reconfigure
-  = Signal Interconnect

Figure 46

# MURILLO AVENUE CORRIDOR IMPROVEMENTS

 Hexagon  
 Transportation Consultants, Inc.

Evergreen • East Hills Vision Strategy

## 15. Weekend Analysis

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In order to determine whether any streets or intersections had special traffic issues not reflected in the weekday AM and PM peak hour analysis, a study was completed of weekend traffic conditions. Intersection turning movement counts were conducted at key signalized intersections in the Evergreen • East Hills area during peak weekend hours. The intersections chosen for study were those near significant retail development and those that are particularly busy on weekdays. The weekend peak hour was determined by systematic mechanical tube count surveys at key sites in the Evergreen • East Hills area, and was found to vary by location, but to be consistently at or near its peak from 2:00 to 4:00 PM Saturday. Manual turning movement counts were conducted during these hours on a Saturday in February or March 2006 at each of eleven weekend study intersections. Results of the intersection level of service analysis for the Saturday peak hour are shown beside that of the existing weekday PM peak hour in Table 38. The analysis shows that the intersections operate at comparable levels of service during the workweek and the weekend. It should be noted that the Evergreen area signals are coordinated only on weekdays, and not weekends. A general recommended improvement is to study the corridors for potential signal coordination on weekends.



**Table 38**  
**Area-Wide Saturday Level of Service Analysis**

Intersection	Existing				Existing	
	AM		PM		Weekend	
	Delay	LOS	Delay	LOS	Delay	LOS
King Road and Story Road	43.8	D	47.3	D	48.6	D
Capitol Expressway and Story Road	60.0	E	54.9	D	54.6	D
White Road and Story Road	43.7	D	46.0	D	43.0	D
Alvin Way and Tully Road	32.7	C	44.1	D	43.4	D
King Road and Tully Road	38.9	D	48.6	D	49.2	D
Quimby Road and Tully Road	34.4	C	45.1	D	46.0	D
Capitol Expressway and Tully Road	40.3	D	41.5	D	43.1	D
Capitol Expressway and Quimby Road	42.8	D	57.0	E	52.0	D
White Road and Quimby Road	37.3	D	40.2	D	39.4	D
Capitol Expressway and Aborn Road	41.9	D	48.0	D	54.6	D
Silver Creek Road and Capitol Expressway	60.3	E	52.4	D	42.1	D

## 16. Summary of Improvements

---

This chapter summarizes the improvements identified in the preceding chapters. Required Transportation Improvements are those projects that are proposed to be fully funded by the EEHVS financing plan. Recommended Transportation Amenities are projects that may receive funding through an EEHVS financing plan, but which have undetermined financing. Mitigations from the EIR are improvements beyond the Required Transportation Improvements that have been identified through the EIR process as mitigation for significant project impacts. Projects labeled as being Required as Part of Site Development are those that have been identified as specifically required to provide access to development sites. Table 39 summarizes the improvements in each corridor, grouped by type of improvement.

Table 39  
Improvement Summary

Improvement		Required Transportation Improvement	Recommended Transportation Amenity	Mitigation from EIR	Required as Part of Site Development
1	Install a traffic signal at the Lancelot Ln. / Story Rd. intersection.	X			
2	Install a traffic signal at the Clayton Rd. / Story Rd. intersection.	X			
3	Install a traffic signal at the S. Jackson Avenue / I-680 (N) intersection.	X			
4	Lengthen the southbound left turn pockets at the Capitol Expressway and Story Road intersection.		X		
5	Install ITS cameras at King Road and Story Road, S. Jackson Avenue and Story Road, Capitol Expressway and Story Road, and White Road and Story Road, and at S. Jackson Ave. with I-680 (N) and with Dobern Avenue. Install conduit, communication cables and wireless interconnects as appropriate.		X		
6	Consider use of EEHVS miscellaneous transportation improvement funds to add sidewalks to Story Road east of Lancelot Lane and to add bike lanes to Story Road.		X		
7	Install a traffic signal at the Ocala Ave. / Adrian Way intersection.	X			
8	Install a traffic signal at the Hillmont Ave. / Ocala Ave. intersection.	X			
9	Install a traffic signal at the Flint Ave. / Marten Ave. intersection.	X			
10	Install a traffic signal at the Mt. Rushmore Dr. / Marten Ave. intersection. Pair this signal with the signal at Flint Ave.	X			
11	Widen the westbound approach to add a second through lane at the White Road / Ocala Avenue / Marten Avenue intersection. Restripe the eastbound approach to accommodate the second through lane.	X			
12	Reconfigure Ocala Avenue to four lanes, two in each direction, between Woodridge Way and White Road, a distance of 600 feet.	X			
13	Install a camera system at the intersections of Ocala Ave. / King Road, Ocala Ave. / Capitol Expressway, and Ocala Ave. / White Rd. Install conduit, communication cables and wireless interconnects as appropriate.		X		
14	Consider use of EEHVS miscellaneous transportation improvement funds for the addition of sidewalks and bike lanes along Ocala Avenue and Marten Avenue where they don't currently exist.		X		
15	Install a traffic signal at the Ruby Avenue / Tully Road / Murillo Avenue intersection.	X			
16	Install a traffic signal at the Almond Drive and Tully Road intersection.				
17	Add a second left-turn lane to the southbound approach to the King Road/Tully Road intersection. Add a separate right-turn lane to the eastbound approach.	X			X



Table 39  
Improvement Summary

	Improvement	Required Transportation Improvement	Recommended Transportation Amenity	Mitigation from EIR	Required as Part of Site Development
18	Add a second left-turn lane to each of the four approaches to the White Road/Tully Road intersection. Add a third through lane to the northbound, southbound and eastbound approaches. The above modifications would eliminate the separate right-turn lanes on the eastbound and westbound approaches.	X			
19	Lengthen the northbound left turn pocket 200 feet at the Quimby Road / Tully Road intersection. Lengthen the eastbound left turn pocket 160 feet. Replace the existing traffic signal controller with an eight-phase controller using protected left turns.		X		
20	Lengthen the eastbound left-turn pocket by 40 feet at the Flint Avenue and Tully Road intersection.		X		
21	Lengthen the westbound left turn pocket at the Capitol Expressway and Tully Road intersection. Storage for the southbound left turn would be inadequate under project conditions. It may or may not be possible to extend the southbound left turn pocket depending on the future LRT design on Capitol Expressway.		X		
22	Add an exclusive northbound right turn lane at the McLaughlin Avenue and Tully Road intersection.			X	
23	Install an S-median at the Vista Verde Drive and Tully Road intersection.				X
24	Construct an auxiliary lane on U.S. 101 in the southbound direction between the Tully Road and Capitol Expressway interchanges.	X			
25	Reconfigure the U.S. 101/Tully Road interchange, converting the interchange from a full cloverleaf design to a partial cloverleaf design (eliminating the two existing loop off-ramps).	X			
26	Install ITS camera systems at the intersections of Lanai Way and Tully Road, King Road and Tully Road, Quimby Road and Tully Road, Capitol Expressway and Tully Road, White Road and Tully Road. Install conduit, communication cable, and wireless interconnects as appropriate.		X		
27	Consider use of EEHVS miscellaneous transportation improvements funds to install bike lanes on Tully Road east of Quimby Road.		X		
28	Install a traffic signal at the Scottsdale Drive and Quimby Road intersection.	X			
29	Install a traffic signal on Quimby Road to provide access to the Arcadia Property.				X
30	Capitol Expressway / Quimby Road. Add a second left-turn lane on the eastbound approach.	X			
31	Add a second left-turn lane to each of the four approaches, and add a third through lane to the northbound and southbound approaches at the White Road / Quimby Road intersection.	X			
32	Lengthen the northbound left turn pocket 90 feet at the Capitol Expressway / Quimby Road intersection. Lengthen the southbound turn pocket by 100 feet.				
33	At the Capitol Expressway and Quimby Road intersection add a northbound right-turn lane and an eastbound right turn lane. This improvement would require roadway widening and the acquisition of approximately two feet of additional right of way along Quimby Road on the southwest quadrant and along Capitol Expressway on the southeast quadrant.		X	X	

Table 39  
Improvement Summary

Improvement		Required Transportation Improvement	Recommended Transportation Amenity	Mitigation from EIR	Required as Part of Site Development
34	Construct a median break and left-turn pocket and install a traffic signal at the proposed entrance to the Evergreen College development site along Yerba Buena Road.				X
35	Restripe Quimby Rd. to four lanes along the sections that currently are striped for two lanes (Winwood to Ruby and Arcade to Murillo).		X		
36	Install ITS traffic camera systems at the intersections of Capitol Expressway and Quimby Road, and of White Road and Quimby Road. Install communication cables, conduit and wireless links as appropriate.		X		
37	On the segment of Capitol Expressway south of Quimby Rd., add sidewalks, streetlights, trees, and signal upgrades/modifications to both sides of the expressway. Add median landscaping.	X			
38	Consider using the EEHVS miscellaneous transportation improvement funds to add bike lanes to Quimby Road.		X		
39	Install a traffic signal at the Murillo Avenue / Aborn Road / Yerba Buena Road intersection.				X
40	Add a second left-turn lane on the northbound approach at the Capitol Expressway / Aborn Road intersection. Add a fourth through lane in both directions on Capitol Expressway.	X			
41	Add a second left-turn lane to the westbound approach of the White Road / San Felipe Road / Aborn Road intersection. Add a second left-turn lane to the westbound approach. Lengthen the northbound and southbound left-turn pockets. Add a third through lane to the southbound approach.	X			
42	Modify the phasing of the existing traffic signal to provide protected left turns on the northbound and southbound approaches at the Ruby Avenue / Aborn Road intersection.	X			
43	Install an S-median at the Aborn Court / Aborn Road intersection.		X		
44	Install an S-median at the Terra Cotta Drive / Aborn Road intersection.		X		
45	Extend the southbound left turn pocket at Nieman Boulevard and Aborn Road.		X		
46	Install ITS traffic camera systems at the intersections of King Road and Aborn Road, Capitol Expressway and Aborn Road, White Road and Aborn Road, and Ruby Avenue and Aborn Road. Install communication cables, conduit and wireless links as appropriate.		X		
47	Install a traffic signal at the Yerba Buena Road / Old Yerba Buena Road intersection to serve the Berg / IDS / Legacy Properties.				X
48	Extend the southbound left-turn pocket at Silver Creek Road and Yerba Buena Road. Re-align eastbound and westbound movements to improve the existing operation.	X			

Table 39  
Improvement Summary

	Improvement	Required Transportation Improvement	Recommended Transportation Amenity	Mitigation from EIR	Required as Part of Site Development
49	Add a second left-turn lane to the eastbound, westbound and southbound approaches at the Yerba Buena Road / San Felipe Road intersection. Lengthen the eastbound left turn pocket. These improvements will necessitate the closing of the median on Yerba Buena Road at the Buena Park Court and Yerba Buena Road intersection.	X			
50	Add a new on-ramp from the northbound collector-distributor (C-D) road between Yerba Buena Road and Capitol Expressway to northbound U.S. 101 to allow traffic from Yerba Buena Road to enter the freeway before Capitol Expressway.	X			
51	Construct a new two-lane off-ramp from southbound U.S. 101 to Yerba Buena Road allowing traffic to exit the freeway after Capitol Expressway.	X			
52	Extend Yerba Buena Road as a two lane roadway with median from its current terminus to Aborn Road.	X			X
53	The Evergreen • East Hills Vision Strategy would downgrade the General Plan designation for Yerba Buena Rd. east of San Felipe Rd. from a four-lane to a two-lane facility.				
54	Install ITS traffic camera systems at the intersections of U.S. 101 NB On Ramp and Yerba Buena Road, Silver Creek Road and Yerba Buena Road, Nieman Boulevard and Yerba Buena Road, and San Felipe Road and Yerba Buena Road. Install communication cables, conduit and wireless links as appropriate.	X	X		
55	Consider using the EEHVS miscellaneous transportation improvement funds to extend the sidewalks on both sides of Yerba Buena Road for 250 feet to the east of Buena Park Court to complete the missing sidewalk segment at that location.		X		
56	Silver Creek Road / Capitol Expressway. Widen the curb lane on the westbound receiving leg of Capitol Expressway to eliminate impedance to westbound through traffic caused by vehicles turning into the adjacent shopping center. Extend the eastbound left-turn pocket.	X			
57	Silver Creek Road and Capitol Expressway. Extend the westbound left turn pocket by 40 feet by cutting into the landscaped median. Extend the northbound left turn pockets by 250 feet by cutting into the landscaped median.		X		
58	Install ITS traffic camera systems at the intersections of King Road and I-680 Ramps (N), King Road and I-680 Ramps (S), King Road and Capitol Expressway. Install communication cables, conduit and wireless links as appropriate.		X		
59	Consider using EEHVS miscellaneous transportation improvement funds to add bike lanes to King Road.		X		
60	Install a traffic signal at Nieman Boulevard and Daniel Maloney Drive.	X			
61	Consider using EEHVS miscellaneous transportation improvement funds to extend bicycle lanes and on-street parking on both sides of Nieman Boulevard from Daniel Maloney Drive to Yerba Buena Road.		X		
62	Install a traffic signal on Capitol Expressway to provide access to the Arcadia Property.				X

Table 39  
Improvement Summary

Improvement		Required Transportation Improvement	Recommended Transportation Amenity	Mitigation from EIR	Required as Part of Site Development
63	McLaughlin Avenue / Capitol Expressway. Add a second left-turn lane on the northbound and southbound approaches. Modify the phasing of the existing traffic signal to provide protected left turns on the northbound and southbound approaches.	X			
64	Convert the existing HOV lanes to mixed-flow lanes, providing four through-lanes in each direction on the segment of Capitol Expressway south of Quimby Rd.	X			
65	Install ITS camera systems and signal interconnects at the intersections of U.S. 101 NB On / Off-Ramps and Capitol Expressway, and of Silver Creek Road and Capitol Expressway. Install conduit, and communication cable as appropriate.		X		
66	Modify the traffic signal at White Road and Lake Cunningham Park Drive to add a fourth leg for the Pleasant Hills Gold Course Property development.				X
67	White Road / Norwood Avenue. Add a third through lane to the northbound and southbound approaches. Add a left/U-turn lane to the northbound White Road approach.	X			
68	White Road / Stevens Lane. Add a third through lane to the northbound approach. Add a left/U-turn lane to the northbound White Road approach.	X			
69	Build White Road to its full six-lane cross-section with raised median and bike lanes from Ocala Avenue to Aborn Road (except from Sturla Drive to Stutz Way). Install "S" medians at Sylvan Drive, Almond Drive, Allenwood Drive, Westgrove Lane, and D'Amico Drive.	X			
70	Consider use of EEHVS miscellaneous transportation improvement funds to add sidewalks to San Felipe Road where they are missing.		X		
71	Build a sidewalk along the frontage of the Pleasant Hills Golf Course Property development on White Rd.				X
72	Install a traffic signal at the Ruby Avenue / Norwood Avenue intersection.	X			
73	The Evergreen • East Hills Vision Strategy would remove the Major Collector General Plan designation for Mt. Pleasant Road and Ruby Avenue.	X			
74	Consider converting Mt. Pleasant Road and Ruby Avenue into a multi-modal cross-section, which would provide bike lanes.		X		
75	Consider striping Murillo Ave. as a multi-modal street on the 66 feet wide sections. Widen all sections to 66 feet as adjacent properties develop.		X		
76	The Evergreen • East Hills Vision Strategy would downgrade the General Plan designation for Murillo Avenue from a four-lane collector to two-lane collector.	X			



## 17.

# Site Access and On-site Circulation Analysis

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There are four main development areas for which some site access and circulation analysis can be done at this time: the Arcadia Property, the Pleasant Hills Golf Course Property, the Berg / IDS / Legacy Properties, and the Evergreen Valley College Property. Other development in Evergreen is included in the Traffic Impact Analysis; however, its location and/or type is not known.

### ***Arcadia Property***

No site plan has yet been developed for the Arcadia Property, so detailed analysis is not possible. It is known that access will come from Quimby Road and from Capitol Expressway. Because of the magnitude of project traffic and the magnitude of through traffic on these two roadways, it is assumed that both access points will need to be signalized. Table 40 shows that both access intersections would operate at LOS D or better. The assumed lane configuration for the access intersections is shown in Figure 47.

**Table 40**  
**Arcadia Property Entrance Intersection Levels of Service**

Location	Peak Hour	Delay (seconds)	LOS
Entrance on Quimby Road	AM	21.3	C
	PM	23.9	C
Entrance on Capitol Expressway	AM	21.6	C
	PM	39.5	D





Figure 47

# **ASSUMED ACCESS FOR ARCADIA PROPERTY** (suggested lane configurations subject to future review)

Evergreen • East Hills Vision Strategy



## ***Pleasant Hills Golf Course Property***

A preliminary site plan has been developed that shows the locations of access points and internal roadways (see Figure 48). The main access points will be a new road opposite Cunningham Lake Park, forming a fourth leg of the signalized intersection on White Road, and a new road opposite Almond Drive on Tully Road. The latter intersection will require a new traffic signal, as described in the previous chapter. These two access points are sufficient to accommodate the traffic generated by the project, while maintaining LOS B or better. Secondary access points are shown connecting to Flint Avenue opposite Kohler Avenue and to Vista Verde Drive opposite Sueno Drive. These two secondary access points would be used to provide connections to nearby schools. School access is discussed in more detail in the next chapter.

The proposed internal road network generally provides good access to the various parts of the site. There are a couple of recommendations to improve circulation. First, the main entrance roads are shown with very wide medians. These medians cannot be carried all the way to the intersections with White Road and Tully Road, or they would create problems with alignment. The medians should taper down before the entrance intersections so that there is no separation between the inbound and outbound roadways. Second, the site features many cul-de-sacs. These are acceptable for auto travel, but they create unreasonably long pedestrian routes. Pedestrian connections should be constructed between the bulbs of the cul-de-sacs and the surrounding streets to provide convenient access to bus stops, schools, and other pedestrian destinations.

## ***Berg / IDS / Legacy Properties***

A preliminary site plan has been developed that shows the locations of access points and internal roadways (see Figure 49). All of the access points are located along Yerba Buena Road, which is proposed to be narrowed and moved from its originally planned alignment. The proposed road alignment is curved rather than straight and is moved east of its original location. The reason for moving the road is to provide a less abrupt interface with the existing neighborhood west of Yerba Buena. The reason for narrowing the road from the originally-planned four lanes to two lanes is that traffic projections showed that two lanes would be sufficient. The access intersection located at Old Yerba Buena Road would meet signal warrants and require a signal. None of the other access points are anticipated to need signals.

There are several design problems with the proposed road system as shown on the current site plan (see Figure 49). Some of these are awkward intersections where the roads are skewed or the alignment is offset. Other problems are roads shown with curve radii that are too tight. In a few instances intersections are located too close to a curve, which would hamper sight distance. Figure 49 also shows that median breaks and turn pockets will be required at all cross streets along the main circulation roads. These may require the main circulation roads to be widened to provide adequate space for the turn pockets. Pedestrian circulation generally would be good, although there are a couple of long cul-de-sacs that should have connections from the bulb end to nearby streets.

## ***Evergreen Valley College Property***

The current site plan shows numerous access points: one driveway to San Felipe Road, which would need to be right-turn only because of the median; six driveways to Paseo de Arboles, none of which line up with any existing median openings; and two driveways on Yerba Buena Road, on which there are no current median openings. The number of driveways on Paseo de Arboles should be reduced. At least one driveway on Paseo de Arboles should be located in a place where a full-access median break is possible

(see Figure 50). Some of the driveways on Paseo de Arboles are shown with a significant skew relative to the roadway. These should be better aligned. On Yerba Buena Road, a median break should be opened at the eastern driveway (labeled South Gateway Drive) to provide left turn access. This would require the removal of several Eucalyptus trees from the median to provide sight distance but is otherwise feasible.

The site plan does not show good connectivity throughout the site for vehicles. There appear to be several dead-end streets and discontinuities. These need to be corrected. It should be possible for vehicles to get from each part of the site to each other part without having to go back out onto the major surrounding streets.



**Figure 48**  
**Pleasant Hills Golf Course Property**

**Figure 49**

**Berg / IDS / Legacy Properties**

**Figure 50**  
**Evergreen Valley College Property**

## 18.

# Neighborhood Traffic Analysis

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The neighborhood traffic analysis consists of estimates of the amount of traffic that would be added to existing neighborhood streets by the project. Development on the Arcadia Property would not add traffic to neighborhood streets because the only access to the site would be via Quimby Road or Capitol Expressway, which are both arterial streets. Similarly, the Evergreen Valley College Property only has access to arterial streets. The potential for added traffic to neighborhood streets comes from the Pleasant Hills Golf Course Property and the Berg / IDS / Legacy Properties.

Two definitions are useful in the context of neighborhood traffic analysis: cut-through traffic and neighborhood connectivity traffic. A general definition of cut-through traffic is that traffic that does not originate in the neighborhood and is supposed to be on an arterial but is instead trying to use the neighborhood streets in order to avoid arterial congestion. That is to be distinguished from neighborhood connectivity traffic, which has a direct trip starting point or ending point within the neighborhood or expanded neighborhood. Instances of neighborhood connectivity traffic very often include trips to schools within or adjacent to a neighborhood. New residential developments adjacent to existing residential areas have the potential to create neighborhood connectivity traffic.

### ***Pleasant Hills Golf Course Property***

The current site plan includes secondary access to neighborhood streets on the east edge of the site. One access point connects to Flint Avenue across from Kohler Avenue. The other access point is shown to connect to Vista Verde Drive across from Suena Drive. It is recommended that there be two connections to Vista Verde Drive, one at Cuesta Drive and the other at either Floresta Drive or Dias Drive. These access points potentially would be used to drive children to and from nearby schools. Other than for school trips, these access points would be little used because there are no other major destinations east of the site.

According to the school analysis, the Pleasant Hills Golf Course Property development would be home to 276 elementary school students and 165 high school students. The high school students would attend Mt.



Pleasant High School. Vehicles traveling to and from Mt. Pleasant High School could use White Road or could use Flint Avenue to Marten Avenue. Those using Flint Avenue would be added traffic on neighborhood streets.

The elementary school situation is less clear cut. There are three nearby elementary schools: Valle Vista (K-3), Ida Jew (4-6), and August Boeger (7-8). All three schools are located on Flint Avenue and all are full. The Pleasant Hills site plan includes an area that could be used to build a new school. However, 276 students are not enough to fill a school. The Mt. Pleasant Elementary School District could either build a new school on the Pleasant Hills Golf Course Property or on another site as yet unidentified. In either case it will be necessary to adjust school attendance boundaries. If a new school is built on the Pleasant Hills Golf Course Property, then the new residential development would not be adding elementary school trips to the existing neighborhood streets. However, a worst case assumption is that the new students would attend the existing schools on Flint Avenue.

Table 41 shows the amount of traffic that would be added to neighborhood streets under the worst-case assumption of no new school. Because there are three schools on Flint Avenue, it has a higher traffic volume than is typical for a street of that type. Flint Avenue carries between 3,500 and 4,400 cars per day. Assuming the three schools somehow could be made to accommodate more students, the project would add up to 700 new cars per day to Flint Avenue. The other neighborhood streets that might be used by project traffic include Vista Verde Drive, Cuesta Drive, Sueno Drive, Floresta Drive, and Portal Way. The shorter of these streets currently carry 200-400 cars per day, whereas Vista Verde Drive carries between 1,200 – 2,000 cars per day. The amount of daily traffic added to these neighborhood streets by the project would be in the range of 100-200 cars.

**Table 41**

**Pleasant Hills Golf Course Property Area Neighborhood Traffic Analysis**

Street	Location	Existing ADT	Daily Project Traffic	Total
Flint Av.	s. of Marten	4400	299	4699
	n. of Guluzzo	4400	701	5101
	s. of Kohler	4400	422	4822
	s. of Vista Verde	3500	319	3819
	s. of Cuesta	3500	220	3720
	n. of Tully	3500	66	3566
Vista Verde Dr.	w. of Flint	1200	103	1303
	s. of Sueno	2000	78	2078
Cuesta Dr.	w. of Flint	400	190	590
Floresta Dr.	e. of Portal	400	248	648
Portal Wy.	n. of Sueno	300	100	400
	s. of Sueno	300	80	380

## ***Berg / IDS / Legacy Properties***

Possible neighborhood streets that might be used by project traffic include Verona Road, Altia Avenue, Cortona Drive, Michelangel Drive (not yet constructed), and Ruby Avenue. As with the Pleasant Hills site, most traffic that might use neighborhood streets around the Berg / IDS / Legacy Properties is school traffic. There would also be a small amount of traffic that would use neighborhood streets to access the Evergreen Village area where Lunardi's and Walgreen's are located. The vast majority of traffic to and from the area would use the arterial street network: Yerba Buena Road and Aborn Road.

According to the Evergreen Elementary School District, development of the Berg / IDS / Legacy Properties would result in 856 new elementary school students. These can be divided roughly into 666 K-6 grade students and 190 junior high school students. Both the nearest elementary school (Matsumoto) and the nearest junior high school (Chaboya) are located on Corona Drive and are full. The site plan includes an area that could be used to construct a new school. Because the number of new elementary school students generated by the development (666) would be enough to fill a school and because the existing elementary school is full, it is reasonable to assume that the project will include an elementary school. Therefore, elementary school trips generated by the project would be contained within the site. For junior high school students, it is possible that attendance boundaries would be adjusted, and the students would attend Chaboya. Therefore, junior high school trips were assigned to the local neighborhood streets.

According to the East Side Union High School District, there would be 390 new high school students. The closest high school is Evergreen Valley High School, which is located on Quimby Road at Ruby Avenue. Although the school is now considered full, it is possible that the district would adjust attendance boundaries, and the new high school students would attend Evergreen Valley High School. To get to and from the high school, motorists could use Yerba Buena Road to Aborn Road or to Quimby Road, in which case they would not travel on neighborhood streets, or they could travel through the neighborhood on Altia Avenue and Cortona Drive. It is assumed in this study that one-half the high school trips would travel through the neighborhood.

Table 42 shows that the traffic added to the neighborhood streets by the Berg / IDS / Legacy Properties project would range from about 200 to 1,100 trips per day. The highest number of trips (1,129) would occur on Altia Avenue near Cortona Drive. Cortona Drive would see an increase of about 900 daily trips in front of Chaboya Junior High School. These trips mostly would occur right before and after school as parents drop off and pick up their students.

**Table 42****Berg / IDS / Legacy Properties Area Neighborhood Traffic Analysis**

Street	Location	Existing ADT	Daily Project Traffic	Total
Michelangel Dr.	w. of Yerba Buena	0	235	235
Altia Av.	n. of Cortona	0	530	530
	s. of Cortona	900	1129	2029
Cortona Dr.	e. of Ruby	2700	287	2987
	w. of Altia	2700	906	3606
Verona Rd.		300	233	533

# **Evergreen • East Hills Vision Strategy**

## **Operations Analysis Appendix**

Hexagon Transportation Consultants, Inc.

April 3, 2006



# **Appendix A**

## **Story Rd. Corridor**

## **Appendix B**

### **Ocala Ave. / Marten Ave. Corridor**

## **Appendix C**

### **Tully Rd. Corridor**

## **Appendix D**

### **Quimby Rd. Corridor**



## **Appendix E**

### **Aborn Rd. Corridor**

## **Appendix F**

### **Yerba Buena Rd. Corridor**

## **Appendix G**

### **King Rd. / Silver Creek Rd. Corridor**

## **Appendix H**

### **Nieman Blvd. Corridor**

## **Appendix I**

### **Capitol Expressway Corridor, north of Quimby Rd.**



## **Appendix J**

### **Capitol Expressway Corridor, south of Quimby Rd.**

## **Appendix K**

### **White Rd. / San Felipe Rd. Corridor**

## **Appendix L**

### **Mt. Pleasant Rd. / Ruby Ave. Corridor**

## **Appendix M**

### **Murillo Ave. Corridor**

## **Appendix N**

### **Weekend Analyses**